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ABSTRACT

This progress report summarizes research, training, cooperative, regional advisory council, and special project activities conducted by the Rehabilitation Research and Training Center of the Stout Vocational Rehabilitation Institute from February 1980 through January 1981. Eleven research projects (four involving rehabilitation resources development and management, six dealing with vocational evaluation, and one on vocational adjustment) are summarized. Reports on thirty-three training projects (thirteen continuing, fourteen new, and six proposal projects) are presented. (Training project topics include vocational adjustment services, vocational evaluation, benefits utilization, law and the handicapped, vocational rehabilitation, job placement and job readiness, and counselor utilization of vocational evaluation services.) Described in a section devoted to relationships with public and voluntary agencies are inter- and intradepartmental efforts, state vocational rehabilitation agency relationships, relationships with state social service agencies, relationships with regional offices, cooperative efforts with other agencies and facilities, and relationships with consumer groups. Activities of the regional advisory council are outlined, and the origin and current status of the council and the purpose of its meetings are explained. Three special projects (a workshop on training for utilization of similar benefits, a national rehabilitation facility personnel needs study, and an institute on rehabilitation issues) are discussed. (MN)

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PROGRESS REPORT
NUMBER NINE

REHABILITATION RESEARCH
AND
TRAINING CENTER

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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CE 028 545

STOUT VOCATIONAL REHABILITATION INSTITUTE
University of Wisconsin - Stout ● Menomonie, Wisconsin

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RESEARCH

The Research and Training Center at the University of Wisconsin-Stout began officially with a grant from Rehabilitation Services Administration, Office of Human Development, Department of Health Education and Welfare on June 26, 1972. The Center is housed within the Stout Vocational Rehabilitation Institute, whose other centers provide for the development of materials, undergraduate and graduate education, and client services, all of which have major emphases in the area of Vocational Evaluation, Adjustment, and Placement services. The Materials Development Center is a national information clearinghouse for disseminating publications and training aides in the area of Vocational Evaluation, Adjustment, and Placement. The Vocational Development Center serves in excess of 700 clients per year who are referred for a comprehensive evaluation of their vocational capacities and employment readiness training. The Department of Vocational Rehabilitation offers undergraduate degrees and graduate degrees in Vocational Rehabilitation with specialization in Vocational Evaluation and Work Adjustment. The addition of this Center enhances the Institute's capability by providing the opportunity for research and the training of practitioners in the field.

MISSION

With existing programs in the client service areas of Vocational Evaluation and Work Adjustment, it was logical that the Research and Training Center would have its mission concentrated within these areas, but also within the broader context of the state/federal rehabilitation program complex.

The Center has conducted several research projects across the broad spectrum of facility services, such as state-of-the-art publications, model development, and specific research issues. In 1977, the Center went through a constructive period of review and reorganization, resulting in changes in procedures, personnel, and emphasis of the research. This reorganization process resulted in a set of goals which continue to guide the Center's research. The research mission has been more specifically stated, certain projects have been discontinued, and other projects have been proposed which more directly impact on the mission area. Since this time, various advisory sources have assisted us in developing a programmatic perspective on the organization of research. In 1980, the Center received additional funding to expand into the area of employment of the handicapped, which focuses on enhanced placement strategies.

The organization of the Center consists of the mission, research goal, and lines of programmatic research. These, in turn, impact on the training and dissemination activities of the Center. The mission statement of the Center is:

> *To enhance the employment of handicapped individuals through research and training focused on designing and improving vocational assessment, vocational adjustment, and placement services in rehabilitation.*

The mission of the Center, as defined, addresses specific service activities which begin with vocational assessment of the client's functional capacity in order to determine eligibility and to develop the Individual Written Rehabilitation Plan. In Vocational Adjustment, the focus is upon remediating personal, social, and work behaviors which are barriers to employment. In Placement, the focus is upon preparing the client to seek and maintain employment. Thus, the prime mission area encompasses three distinct rehabilitation steps: (1) eligibility determination and planning for services, (2) restoration and training, and (3) placement. The mission statement can be regarded as a "statement of the problem" indicating the need to improve these services and their delivery to assist in the rehabilitation and habilitation of handicapped individuals.

The goal of research under this mission is to develop programmatic research which would result in:

> *A centralized body of knowledge which specifies the applicability and utility of selected rehabilitation techniques, practices, programs, and theory in improving eligibility determination, development of the Individualized Written Rehabilitation Plan, adjustment to work, and employment in a suitable vocational setting.*

The mission of the Center has been stated and the long-range outcomes of the Center have been specified. The focus of the Center is further defined by the context within which Vocational Evaluation, Adjustment, and Placement are delivered. To a large extent, the rehabilitation technology of Vocational Evaluation and Vocational Adjustment is employed in rehabilitation facilities to which state vocational rehabilitation clients are referred. Placement is provided both by the VR agency as well as within rehabilitation facilities.

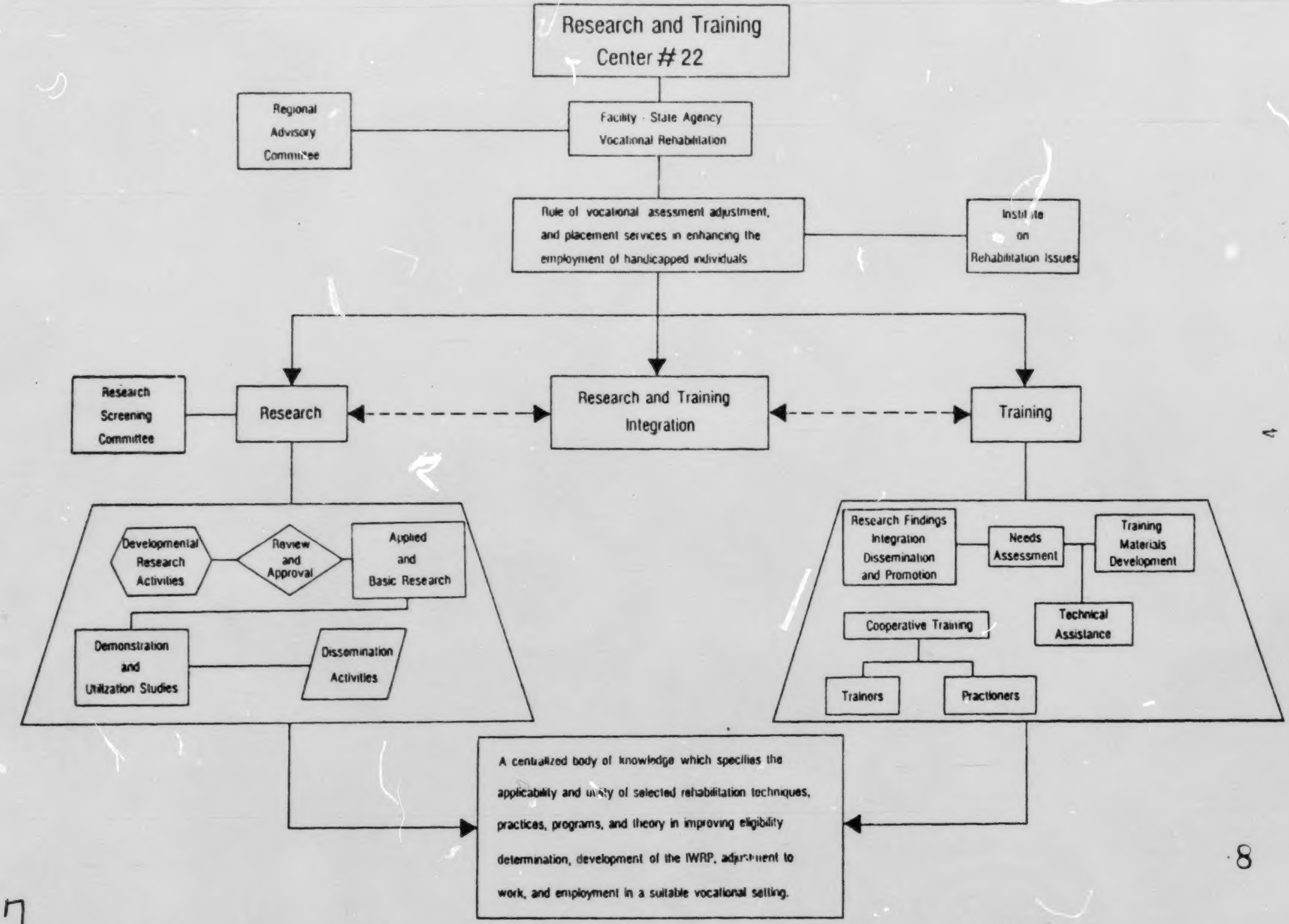
Given this background, the directions and processes of the Center can be specified. In Figure 1, it is evident that the mission area of the Center addresses concerns with the delivery of services in facility-state agency rehabilitation. The Center has three main functions: Research, Training, and the Integration of Research and Training. The Regional Advisory Committee serves to guide the overall effort of the Center. The Center also conducts an annual Institute on Rehabilitation Issues as a part of its functions. Within research, various activities are undertaken within the course of conducting research. Similarly, Training engages in diverse activities designed to enhance the competencies of selected rehabilitation professionals. Together these processes are directed toward the goal specified earlier.

Uniqueness of the Mission Area

The process of rehabilitating a client is a complex one from the organizational perspective. Thus, it may be difficult to understand how our research goal specifically relates to the overall rehabilitation process. In Figure 2, this process is briefly detailed for the major steps that state rehabilitation counselors initiate with clients and illustrates some of the services which clients receive from vocational rehabilitation facilities. When the client enters the rehabilitation system, the first contact is with the state agency rehabilitation counselor, who must initially decide whetner the client is eligible. If the client is eligible, the counselor then decides which services are appropriate for the clinet, and usually refers the client to an external agency. The state rehabilitation agencies purchase a variety

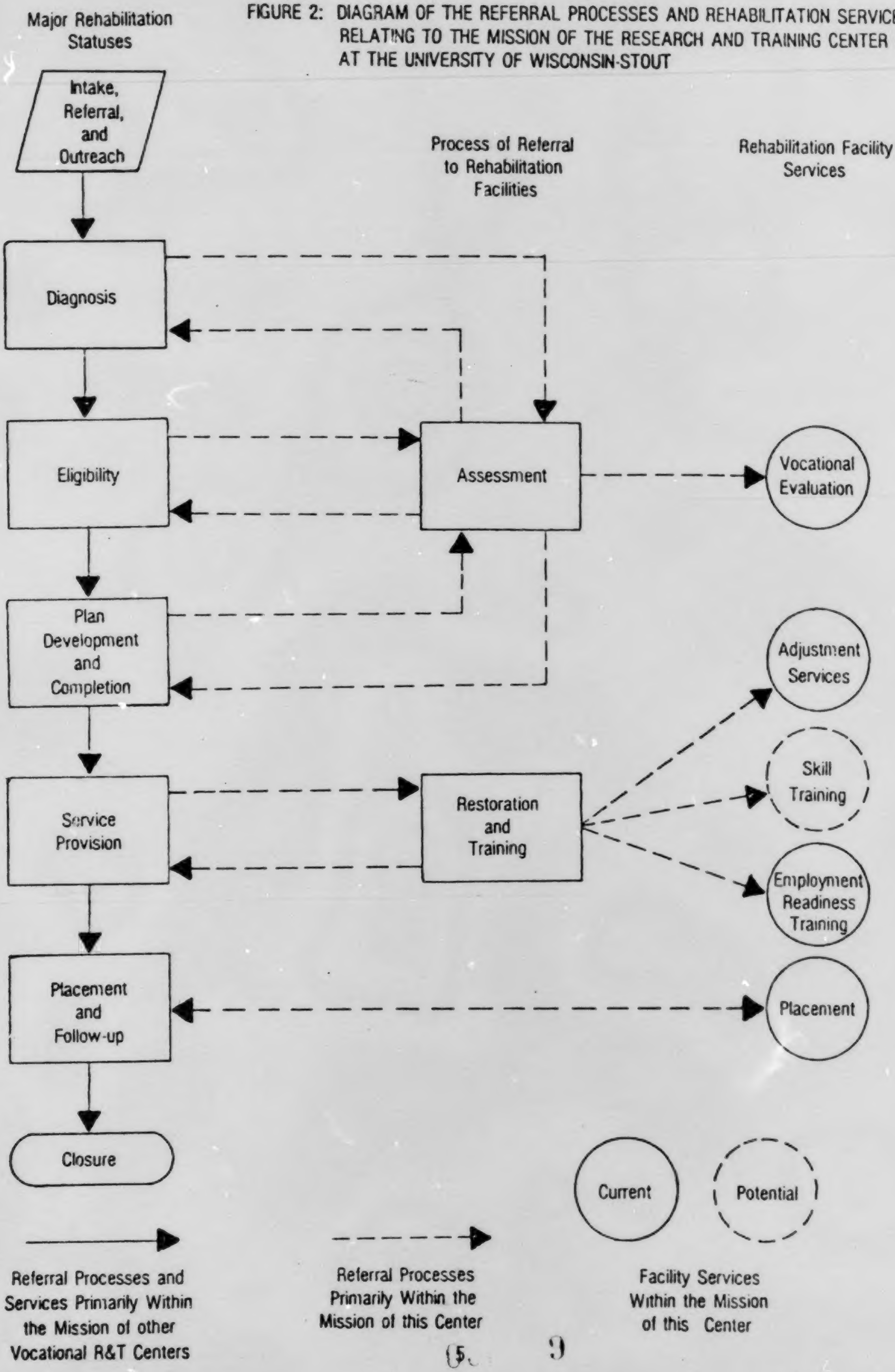
FIGURE 1: DIRECTIONS AND PROCESSES OF THE UNIVERSITY OF WISCONSIN - STOUT

RESEARCH AND TRAINING CENTER (#22)


Research and Training Center # 22
Regional Advisory Committee
Facility - State Agency Vocational Rehabilitation
Role of vocational assessment adjustment, and placement services in enhancing the employment of handicapped individuals
Institute on Rehabilitation Issues
Research Screening Committee
Research
Research and Training Integration
Training
Developmental Research Activities
Review and Approval
Applied and Basic Research
Demonstration and Utilization Studies
Dissemination Activities
Research Findings Integration Dissemination and Promotion
Needs Assessment
Training Materials Development
Technical Assistance
Cooperative Training
Trainors
Practioners

A centralized body of knowledge which specifies the applicability and utility of selected rehabilitation techniques, practices, programs, and theory in improving eligibility determination, development of the IWRP, adjustment to work, and employment in a suitable vocational setting.

FIGURE 2: DIAGRAM OF THE REFERRAL PROCESSES AND REHABILITATION SERVICES RELATING TO THE MISSION OF THE RESEARCH AND TRAINING CENTER (RT-22) AT THE UNIVERSITY OF WISCONSIN-STOUT


Major Rehabilitation Statuses
Process of Referral to Rehabilitation Facilities
Rehabilitation Facility Services
Intake, Referral, and Outreach
Diagnosis
Eligibility
Plan Development and Completion
Service Provision
Placement and Follow-up
Closure
Assessment
Restoration and Training
Vocational Evaluation
Adjustment Services
Skill Training
Employment Readiness Training
Placement
Current
Potential
Referral Processes and Services Primarily Within the Mission of other Vocational R&T Centers
Referral Processes Primarily Within the Mission of this Center
Facility Services Within the Mission of this Center

of diagnostic, remediation, training, and restoration services. Though it is the responsibility of the counselor to move the client from the initial step of application (Intake) to successful placement in an appropriate vocational setting, the counselor relies on many other professionals and agencies to provide services. Various professionals engaged in diagnosis, remediation, restoration, and skill training are found in vocational rehabilitation facilities.

The rehabilitation facility services which fall under the mission of this Center are on the right side of Figure 2. Two other vocational rehabilitation Research and Training Centers have mission areas which impact on other portions of the process detailed in Figure 2. The Research and Training Centers at West Virginia University and the University of Arkansas have mission areas concentrating on the referral processes and services relating to state vocational rehabilitation counselors and program evaluation of these processes, while this Center concentrates on the vocational facility services the counselor utilizes and the gatekeeping decisions which are made that effect flow into these services.

Lines of Programmatic Research

Research conducted at the Center is based on four areas or lines of programmatic research: (1) Vocational Evaluation, (2) Vocational Adjustment, (3) Placement, and (4) Rehabilitation Resource Development and Management.

Vocational Evaluation. In Vocational Evaluation, the emphasis is upon the accurate assessment of handicapped individual's functional ability in the vocational area. Though a wide variety of psychometric techniques (such as interest, aptitude, and intelligence testing), and counseling are used, the distinguishing feature of Vocational Evaluation is that of assessing vocational functioning utilizing techniques such as work sampling, situational assessment, and other direct occupational assessment techniques.

The purpose of Vocational Evaluation is to provide an assessment of the vocational potential of the individual and to communicate this information to the individual and to the referral source. The competencies required by a vocational evaluator are varied and cut across disciplines of psychology, industry, occupational and physical therapy, education, and others.

Vocational Adjustment. Unlike Vocational Evaluation, which has become more and more specifically defined as a service entity, Vocational Adjustment has evolved as a remediation service intended to treat a variety of personal, social, and work habit deficits which pose barriers to full vocational development. The definition of Vocational Adjustment has not been accomplished, but the major feature is that of effecting behavioral change which enhances an individual's ability to function in the work setting.

Placement. In contrast to Vocational Evaluation and Adjustment, which concentrate on assessing and enhancing vocational potential, Placement services utilizes techniques which prepare the client to obtain and maintain a specific job. The techniques utilized in Placement rely heavily on skill building activities such as in employment readiness training, job analysis, and job development. The Placement process also bridges the gap between rehabilitation and industry.

Rehabilitation Resource Development and Management. Though the Center's mission area focuses upon service programs such as those above, it would be naive to study those services without considering the context within which they are delivered (facility-state agency rehabilitation system) and the interrelation of service goals and outcomes. The need exists to study variables which effect the flow of clients between the state agency and facilities to increase the effective utilization of these services and to determine the need to modify existing programs and/or develop new ones. There is also a need to examine methods for enhancing the research resources of the Center through joint efforts with other institutions and agencies.

Also included in this line of research are the management aspects of research which involves issue analysis leading to the development of specific research projects to resolve, clarify, and/or identify knowledge gaps under the mission of the Center.

CURRENT RESEARCH PROJECTS

Each year the Center reviews its program strategy which guides the decisions concerning the conduct of research, and within this process, utilizes internal and external advisory and review sources Based on the progress of research projects and the outcomes of research, resources are allocated to the projects under each programmatic line of research. In Figure 3, the current research projects of the Center are charted in relation to the four lines of programmatic research. In the continuation year, the efforts of the research staff are distributed over eleven projects: Six of these projects are continuing ones (R-30, R-39, R-40, R-42, R-43, and R-44); another three are new projects (R-48, R-49, R-50); and the remaining two are proposed projects (R-51, and R-52). Three other projects (R-37, R-41, and R-45) are scheduled for completion by June of 1981.

The activities undertaken to guide the Center's research efforts consist of (1) specifying, analyzing, and prioritizing the issues within each line of programmatic research; (2) conducting pilot studies as appropriate; and (3) developing proposed research based on (1) and (2). This year's activities include a re-organization of the Center's line of programmatic research to include the area of Placement and a further refinement of research in the "Utilization of Services" line which was renamed: "Rehabilitation Resource Development and Management." Each line of programmatic research and the new, continuing, and proposed projects in these lines will be addressed separately.

Rehabilitation Resource Development and Management

Two distinct activities occur under this line of research. First, Center staff must engage in a number of necessary and related activities for the conduct of research and training which are not formally a part of a specific project. The Center also attempts to develop research resources external to the Center, Institute, and University to enhance rehabilitation research under the Center's mission.

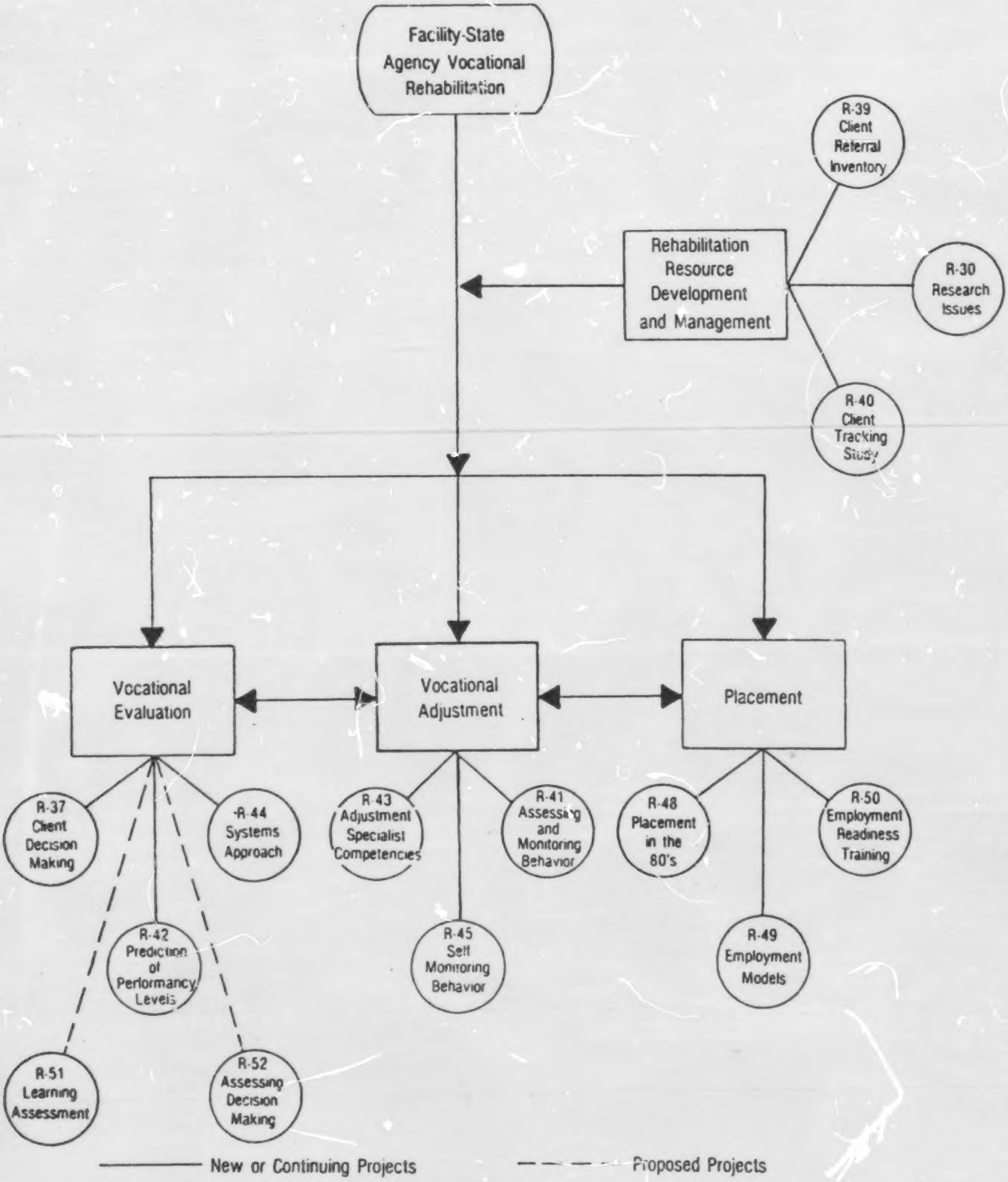

Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 3: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

The developmental project, which was specifically designed to monitor and guide these activities, is Project R-30, Development of Programmatic Research Issues within Vocational Assessment, Adjustment, and Placement Services. In one sense or another, this project impacts on all Center research. An additional purpose of this project is to enhance research utilization by disseminating studies not reported in other projects and provide for immediate dissemination of information relating to initial attempts to research areas of concern to practitioners and program planners. This project gives the Center flexibility to respond to programmatic research, to conduct preliminary studies for the development of project proposals, to respond to state agency needs, and to train rehabilitation researchers. Activities of this project are viewed as a continuing responsibility of the Center and enhances the productivity and resources of the Center's research in a cost effective manner.

During this year, seventeen pilot studies have been or are being conducted in relation to the Center's research through master and doctoral level students at the University of Wisconsin-Stout and six other universities. These studies were either related directly to Center projects or issues under the Center's mission area. The Center published a bibliography of research completed through assistance provided by this project in the Center's research utilization publication entitled: The RTC Connection.

The second emphasis within this line is upon issues in service delivery and impact of facility services. Though the prime focus is not on program evaluation research *per se*, it is impossible to study specific programs such as Vocational Evaluation, Adjustment, and Placement without having the background knowledge of issues within program evaluation of services. The results of the issue analyses in this area indicates that the most pervasive issue that is relevant for our purposes is measurement. Within this issue, we have subdivided measurement into two priority areas: (1) measurement of the client; and (2) measurement of the system's impact on clients. Two projects parallel these priority issues, but they both have limited objectives. First, they are limited by the Center's mission area in that they are designed to assist progress in our main focus on facility-state agency vocational rehabilitatation and on the services of Vocational Evaluation, Adjustment, and Placement. Secondly, they are limited in that their purpose is to provide resolving knowledge gaps related to these services and not toward the entire rehabilitation system. The latter emphasis is more appropriate to the Research and Training Centers at West Virginia and Arkansas.

In the area of measurement of the client, the question is how can we measure clients' functional capacities so that the impact of rehabilitation programs can be assessed. The ideal situation would be the development of a comprehensive instrument which validly measures an individual's total ability to interact with the environment. Thus, client's "functional capacities" could be established at intake and the effect of rehabilitation services which are received could also be measured. Such an instrument could be used for policy decisions, program decisions, and practice decisions, and thus, impact on clients in general and the specific client. Such research is being conducted in project R-39, A Client Referral Inventory for Service Delivery.

In the second study, A Client Tracking Study (R-40), the focus is upon the impact of the system on clients in general. The project looks, not at the measurement of client's functional capacities, but rather on gross measures of client outcome in relation to the services these clients received. It utilizes data from only one state (Wisconsin), but on an in-depth basis. This study not only is providing information about what happens to different clients as a result of their participation in the rehabilitation process, but also provides needed baseline data so that when recommendations are made for changes in different services, such as those the Center studies, the effect can be assessed.

Vocational Evaluation

Vocational Evaluation consists of utilizing various specific techniques for assessing the vocational potential related to the development of the Individually Written Rehabilitation Plan and other purposes. Issue analyses revealed that several important issues are involved. For example:

1. What is the validity and reliability of the work sample methodology and what is the extent of the predictive validity.
2. How do you judge the successfulness of Vocational Evaluation in concrete terms. The criteria of successful rehabilitation outcome such as Placement is inappropriate since Vocational Evaluation is a planning process.
3. What norms should be used in work sample methodology and to what extent does the norming criteria result in the unnecessary screening out of clients from further services, from specific skill training, or recommendations for entry into various occupations.
4. Though Vocational Evaluation is an assessment process, it is also a planning process. Planning, to be effective, must involve the client. To what extent are clients capable of making vocational decisions and what skills should be enhanced if vocational decision-making is a barrier.
5. How do disability characteristics, demographic variables, referral rationale, and other situational variables affect the structure of Vocational Evaluation (methods, instruments, length, client/staff ratio, etc.).
6. Though adjustment services do not always follow Vocational Evaluation, what issues within adjustment services have impact on the processes of vocational assessment.
7. Similarly, though the process of Placement is not typically an immediate outcome of Vocational Evaluation, what issues within Placement have impact on the process of vocational assessment.
8. What impact do current changes in the rehabilitation system have upon the process of Vocational Evaluation. Two current trends of concern are: (a) Independent Living and (b) Private for Profit Rehabilitation.

There are more issues and even sub-issues under those listed above. Each of the issues are important, but the Center cannot simultaneously pursue them. Vocational Evaluation is a maturing technology and widely used throughout the rehabilitation community, but not consistently provided in the same way. This problem is issue (5) above and is being studied in a continuing project, "Vocational Evaluation - A Systems Approach" (R-44). A comprehensive national survey of Vocational Evaluation programs is being conducted to analyze the convergent and divergent practices of vocational assessment within the context of a system (i.e., what are the target populations, funding bases, evaluation techniques, strategies, etc.). The purpose of this research is to delineate effective and efficient models for delivery of Vocational Evaluation services.

The issue of validity and reliability has been studied in previous projects with respect to the issue of norms, and is currently being studied again, but more from the aspect of predictive validity. In The Use of a Microprocessing System to Predict Practiced Performance Levels form Initial Task Acquisition Measures (R-42), the title nearly explains the project. The project has two purposes; (1) to review learning theory and associated techniques for enhancing accurate predictions of skill level and (2) to make such techniques more easily applied in practice through the use of an inexpensive microprocessor system.

A second concern within this area has been the applicability of the emerging theory of learning styles to the assessment process. In a proposed project (R-51), An Evaluation of the Role and Utility of Learning Assessment Instruments in Rehabilitation, the research first examines the applicability of learning style assessment within vocational assessment. The second purpose of this project is to conduct selected experiments relating to critical factors for incorporating the theory and technique into vocational assessment.

Another issue the Center is currently examining within vocational assessment is the capacity for handicapped individuals for making decisions relating to their vocational future and participation in the rehabilitation process. Another proposed project, Assessment of Selected Vocational Deicsion-Making Capacities of Vocational Rehabilitation Clients, (P)R-52), addresses this issue with a formal methodology for refining the Decision-Making Interview (DMI). The DMI was developed under Project R-37, an initial project in the area of vocational decision-making.

Vocational Adjustment

Vocational Adjustment Services less defined and the issue analysis within this area are less specific. Previous research and training efforts in Adjustment Services have made it relatively clear that the prime priority research issue is the definition of Adjustment Services so that priorities can be properly assigned. On the other hand, our previous efforts have also indicated that, on a practical level, Adjustment Specialists have critical, immediate needs for techniques for implementing behavorial change programs.

Our research strategy has been to attempt to meet both needs. In R-43, Adjustment Specialists' Competencies, research is underway through a joint Research and Training staff effort to identify and clarify the competencies needed by Adjustment Specialists and to develop resources and materials relating to enhancing these competencies. In the area of behavioral change, the research component of two studies has been completed and approriate publications on the selected techniques are being prepared. In R-41, Assessing and Monitoring Behavior, a training package is being developed on the Center generated behavorial observation system: Point Sampling. In R-45, Self-Monitoring of Behavior, selected aspects of the techniques of self-management of behavior was explored in an Adjustment program and the review of the literature and factors for implementing these techniques is being prepared for dissemination.

Placement

Issue analysis within the Placement line of programmatic research was initiated in July of 1980 when three new projects were proposed. The Center did receive additional funding in October of 1980 to implement these projects and has used several internal and external review resources to assist in refining these issues which are more clearly specified in Project R-48, Placement in the 1980's. The activities of that project include a state-of-the-art review, an analysis and comparison to the Center's previous work and conclusions made in 1974, and the development of a dictionary of Placement terms.

In R-49, *An Information System for an Industry-Based Employment Model*, a joint effort between the Center and the Electronic Industry Foundation's national Projects With Industry is focused upon enhancing access to employment of handicapped individuals in the electronics industry.

The third project in this new line of research examines the skills that different handicapped individuals require in preparing for, seeking, and maintaining employment. The title of that project (R-50) is *Employment Readiness Training*: In Search of a Model and reflects the need and problems associated with enhancing the placeability skills of handicapped individuals.

Summary

The Center's organization results in a set of research procedures which guide the development and conducting of programmatic lines of research. A total of fourteen projects are reported in this year's grant. Three of these fourteen projects are completing ones, (R-37, R-41, and R-45). Nine other projects are continuing or new ones, (R-30, R-39, R-40, R-42, R-43, R-44, R-48, R-49, and R-50). Two others are proposed projects (R-51 and R-52). The remaining projects not discussed, are from last year's progress report. One has been transferred (R-47) to another project and the other (R-46) has been deferred until a later time.

The process of developing proposed research pilots around the Center's Advisory Council, University Research Screening Committee, the University Committee on the Protection of Human Subjects' Rights, and the activities in the Center's developmental project on research issues (R-30). The generation of the two proposed projects in this grant began in November of last year when the Advisory Council discussed and organized the areas which they perceived as important problem areas. The research staff translated these problem areas into research questions and the two proposals were developed in full and were then reviewed by the University Research Screening Committee in December. Finally, in February, the Advisory Council reviewed the two proposals and recommended submission in the current grant year. After NIHR review, the projects will be reviewed in June by the University Committee on the Protection of Human Subject's Rights prior to implementation. Thus, the generation of research proposals is a complicated and lengthy process, but one which yields relevant projects of highest quality.

The Center adheres to principles of conducting research which would ensure that subjects participating in research experience no harm. The adherence to these principles is the prime moral responsibility of each member of the Center's research team. No legislation can alleviate the researcher from this burden. The Center, as an organization, however, has certain procedures which are designed to monitor the effects of research on subjects. All projects are reviewed by a Committee on the Protection of Human Subjects' Rights. The Center established a University-based committee in June of 1972 when research began under the auspices of the Rehabilitation Services Administration. Recently, the University established its own committee for all research conducted at the University of Wisconsin-Stout. These procedures detailed by the University have now been approved by the Department of Health, Education, and Welfare. The Center's separate university committee was deactivated December 31, 1977, and all research is now reviewed through the procedures detailed in the new assurances given the Department of Health, Education, and Welfare by the University of Wisconsin-Stout, contained in Appendix A to Progress Report #5. Research projects are reviewed by this committee prior to implementation. If major revisions occur in the conduct of the research that affect subjects in the previously approved procedures, these new procedures must be approved by the committee. The research conducted by the Center has minimal potential for harm. The review process has been concerned more with procedures to minimize unnecessary invasion of privacy and the legal rights of subjects, since most projects do not result in any physical or psychological harm.

SUMMARY OF PROJECTS

TITLE	NUMBER	STATUS	PAGE
Rehabilitation Resources Development & Management			
Development of Programmatic Research Issues within Vocational Assessment, Adjustment, and Placement Services	R-30	Continuing	20
A Client Referral Inventory for Service Delivery	R-39	Continuing	46
Facility Services - A Tracking System	R-40	Continuing	71
Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients	R-47	Transferred	96
VOCATIONAL EVALUATION			
A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients	R-37	Completing	98
The Use of a Microprocessing System to Predict Practiced Performance Levels from Initial Task Acquisition Measures	R-42	Continuing	114
Vocational Evaluation Services: A Systems Approach	R-44	Continuing	138
The Impact of Independent Living On Vocational Evaluation	R-46	Deferred	162
An Evaluation of the Role and Utility of Learning Assessment Instruments in Rehabilitation	R-51	Proposed	164
Assessment of Selected Vocational Decision-Making Capacities of Vocational Rehabilitation Clients	R-52	Proposed	181
VOCATIONAL ADJUSTMENT			
The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services	R-41	Completing	215

VOCATIONAL ADJUSTMENT

Resources for Competency-Based Training of Adjustment Personnel: A Joint Research and Training Project	R-43	Continuing	239
An Analysis of Self-Monitoring on Work Skills of Vocational Adjustment Clients	R-45	Completing	287

PLACEMENT

The Placement Process in the 1980's	R-48	New	307
An Information System for an Industry Based Employment Model	R-49	New	340
Employment Readiness Training: In Search of a Model	R-50	New	357

RESEARCH PROJECT REPORT

Project No. R-30

1. Title Development of Programmatic Research Issues within Vocational Assessment, Adjustment, and Placement Services

2. Project Status (Check):

Proposed ___ New ___ Continuing x Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 7/77 mo/yr Expected Completion: 6/82 mo/yr Completed: ___ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Charles Coker, Ph.D.	Psychology	25	25
Fredrick E. Menz, Ph.D.	Measurement & Assessment	10	10
Thomas Czerlinsky, Ph.D.	Psychology	10	10
Thomas Blakmore, Ph.D.	Psychology	10	10
James Herbert, M.S.	Vocational Rehabilitation	5	10
Vacancy	Research Specialist	5	10
Vacancy	Computer Specialist	5	10
Clerical		10	10

5. Financial Data:

Estimated Cost From Beginning to End of Project: $240,163

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	23,763	30,205	3,185	3,207			26,948	33,412
Supplies and Other Expenses	* 13,572	** 20,477					13,572	20,477
Travel	2,100	1,979					2,100	1,979
Equipment								
Indirect Costs Allowed by DE	5,915	7,899	9,757	9,996			15,672	17,885
Total	45,350	60,560	12,942	13,203			58,292	73,753
Percent	78	82	22	18			100	100

* *For report year and continuation year

Includes $8,000 to Michigan State University.

** Includes $8,000 to Michigan State University & $8,000 to Southern Illinois University.

6. Statement of the Problem

Purpose

The Research and Training Center concept as specified in Section 204(B)(1) of the Rehabilitation Act, has unique features which require the conduct of a program of research and training that is responsive to service needs. The National Institute of Handicapped Research's FY 1981 Research and Training Center strategy specifies in detail the characteristics of The Research and Training Center's program. Some of the important aspects are that:

1. Each Center has a unique synergistic mission within rehabilitation research.
2. The research and training is programmatic and responsive to service needs.
3. The activities of research, training, and service are mutually supportive.
4. Each Center has a viable Advisory Council to insure that the needs and interests of the service providers and consumer become known to the Center.
5. Each Center utilizes outside resources to further their research and training efforts.
6. Research results are disseminated and placed into practice.

Furthermore, the purpose of this project is to guide the efforts of this Center toward remaining a model Research and Training Center and to detail the allocation of its resources in accomplishing the requirements and regulations pertaining to Research and Training Centers as specified by the National Institute of Handicapped Research, the Department of Education, and the Rehabilitation Act.

Introduction

This Research and Training Center conducts multiple research and training projects. The need exists to organize and integrate the activities. The Center's organization consists of the mission statement, specification of uniqueness and relation to other vocational R&T Centers, and delineation of the lines of programmatic research or core areas.

Mission Statement of the Center

The Center's processes of research and training are dynamic ones which involve striving to reach and maintain the objectives of a model Research and Training

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Center. Thus, it is necessary to define the mission area of the Center, to specify the range of research and training areas included under that mission, to select and elaborate on the specific research and training areas on which the Center will focus its energy, talents, and resources, and to integrate the research and training functions of the Center. The mission statement of the Center is as follows:

> *To enhance the employment of handicapped individuals through research and training focused on designing and improving vocational assessment, vocational adjustment, and placement services in rehabilitation.*

The mission of the Center, as defined, addresses specific service activities which begin with vocational assessment of the client's functional capacity in order to determine eligibility, to develop the Individual Written Rehabilitation Plan. In vocational adjustment, the focus is upon remediating personal, social, and work behaviors which are barriers to employment. In placement, the focus is upon preparing the client to seek and maintain employment. Thus, the prime mission area encompasses three distinct rehabilitation steps: (1) eligibility determination and planning for services, (2) restoration and training, and (3) placement. The mission statement can be regarded as a "statement of the problem" indicating the need to improve these services and their delivery to assist in the rehabilitation and habilitation of handicapped individuals.

In addition to the mission statement, it is necessary to delineate the expected outcomes of this Research and Training Center. As Mager (1962) implies, the lack of clearly defined goals makes it impossible to evaluate the effectiveness and efficiency of a program, and consequently, there is no sound basis for allocating resources. The goal of this Research and Training Center is to develop:

> *A centralized body of knowledge which specifies the applicability and utility of selected rehabilitation techniques, practices, programs, and theory in improving eligibility determination, development of the Individual Written Rehabilitation Plan, Adjustment to work, and employment in a suitable vocational setting.*

The mission of the Center has been defined and the long-range outcomes of the Center have been specified. The focus of the Center is further defined by the context within which the Vocational Evaluation, Adjustment, and Placement are delivered. To a large extent, the rehabilitation technology of Vocational Evaluation and Vocational Adjustment are employed in rehabilitation facilities to which state vocational rehabilitation clients are referred. Placement is provided both by the VR agency as well as within rehabilitation facilities.

Given this background, the directions and processes of the Center can be specified. In Figure 1, it is evident that the mission area of the Center addresses concerns with the delivery of services with facility-state agency rehabilitation. The Center has three main functions: Research, Training, and the Integration of Research and Training. The Regional Advisory Committee serves to guide the overall effort of the Center. The Center also conducts an annual Institute on Rehabilitation Issues as a part of its functions. Within research, various activities are undertaken within the course of conducting research. Similarly, training engages in diverse activities designed to enhance the competencies of selected rehabilitation professionals. Together these processes are directed toward the goal specified earlier.

Uniqueness of Mission Area

The process of rehabilitating a client is a complex one from the organizational perspective. Thus, it may be difficult to understand how our research goal specifically relates to the overall rehabilitation process. In Figure 2, this process is briefly detailed for the major steps that state rehabilitation counselors initiate with clients and illustrates some of the services which clients receive from vocational rehabilitation facilities. When the client enters the rehabilitation system, the first contact is with the state agency rehabilitation counselor, who must initially decide whether the client is eligible. If the client is eligible, the counselor then decides which services are appropriate for the client, and usually refers the client to an external agency. The state rehabilitation agencies purchase a variety of diagnostic, remediation, training, and restoration services. Though it is the responsibility of the counselor to move the client from the initial step of application (Intake) to successful placement in an appropriate vocational setting, the counselor relies on many other professionals and agencies to provide services. Various professionals engaged in diagnosis, remediation, restoration, and skill training are found in vocational rehabilitation facilities.

The rehabilitation facility services which fall under the mission of this Center are on the right side of Figure 2. Two other vocational rehabilitation Research and Training Centers have mission areas which impact on other portions of the process detailed in Figure 1. The Research and Training Centers at West Virginia University and the University of Arkansas have mission areas concentrating on the referral processes and services relating to state vocational rehabilitation counselors and program evaluation of these processes, while this Center concentrates on the vocational facility services the counselor utilizes and the gatekeeping decisions which are made that effect flow into these services.

Lines of Programmatic Research

Research conducted at the Center is based on four areas or lines of programmatic research: (1) Vocational Evaluation, (2) Vocational Adjustment, (3) Placement, and (4) Rehabilitation Resource Development and Management.

FIGURE 1: DIRECTIONS AND PROCESSES OF THE UNIVERSITY OF WISCONSIN - STOUT

RESEARCH AND TRAINING CENTER (#22)

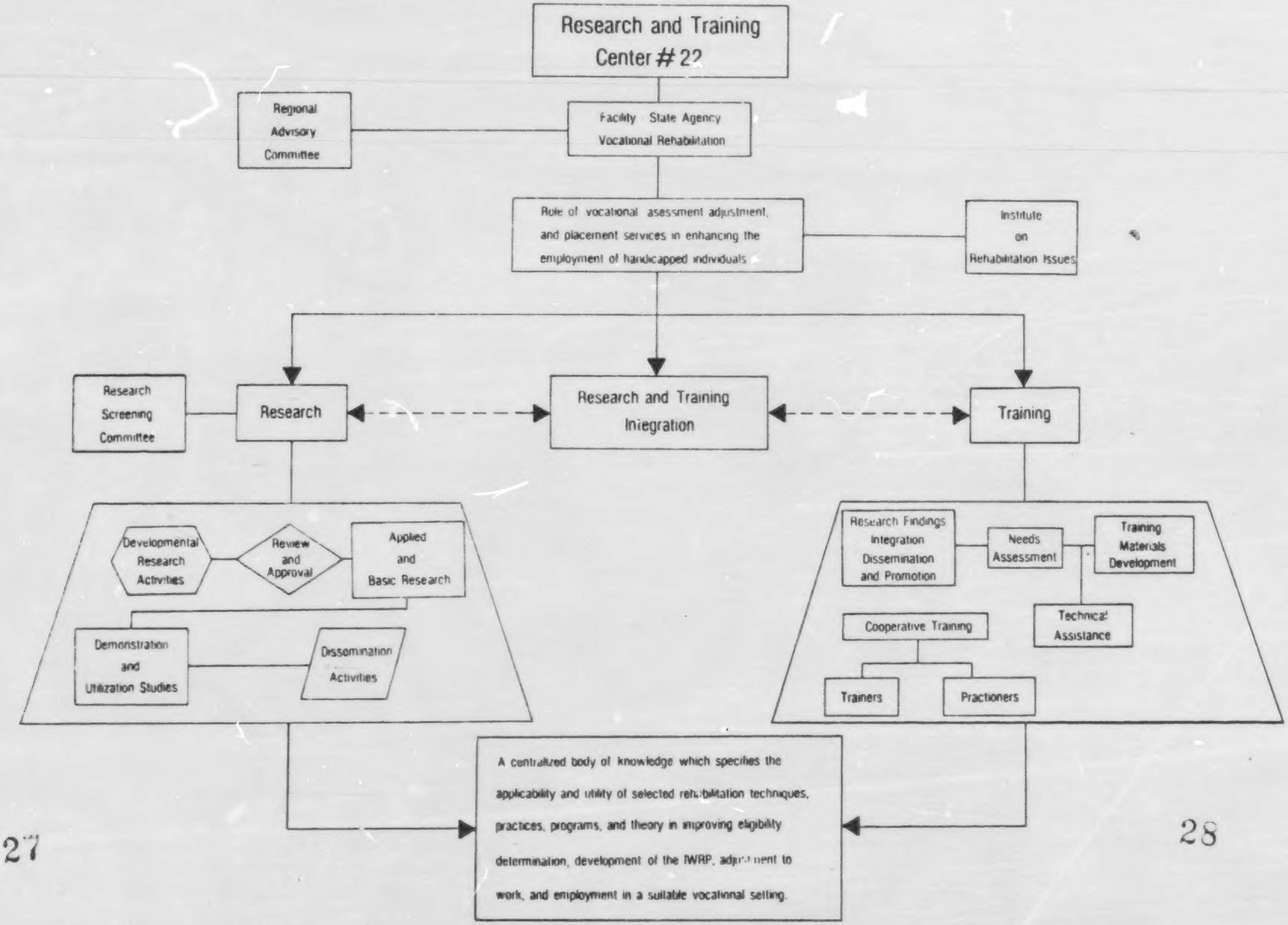
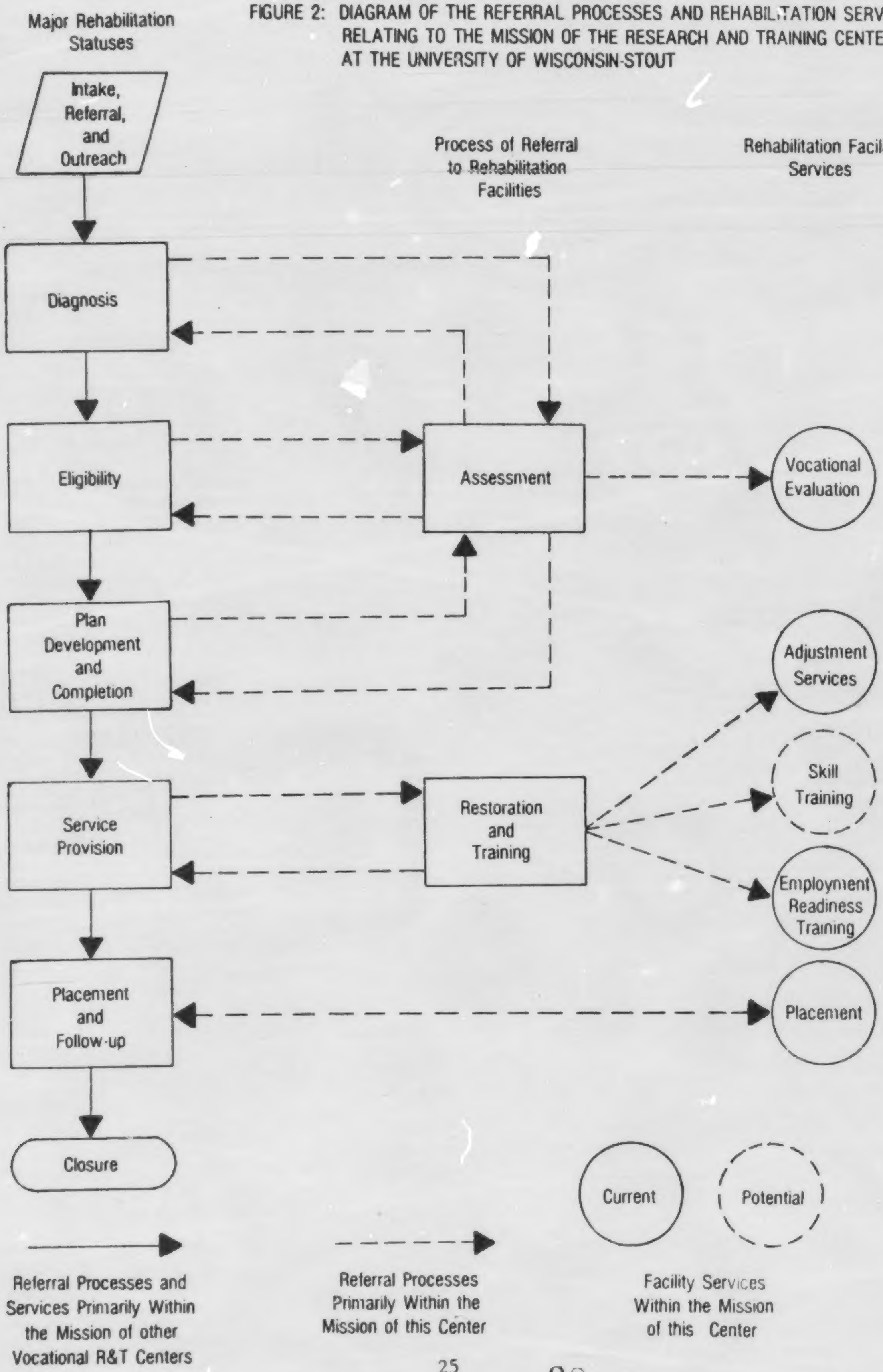

Research and Training Center # 22
Regional Advisory Committee
Facility - State Agency Vocational Rehabilitation
Role of vocational assessment adjustment, and placement services in enhancing the employment of handicapped individuals
Institute on Rehabilitation Issues
Research Screening Committee
Research
Research and Training Integration
Training
Developmental Research Activities
Review and Approval
Applied and Basic Research
Demonstration and Utilization Studies
Dissemination Activities
Research Findings Integration Dissemination and Promotion
Needs Assessment
Training Materials Development
Technical Assistance
Cooperative Training
Trainers
Practioners
A centralized body of knowledge which specifies the applicability and utility of selected rehabilitation techniques, practices, programs, and theory in improving eligibility determination, development of the IWRP, adjustment to work, and employment in a suitable vocational setting.

FIGURE 2: DIAGRAM OF THE REFERRAL PROCESSES AND REHABILITATION SERVICES RELATING TO THE MISSION OF THE RESEARCH AND TRAINING CENTER (RT-22) AT THE UNIVERSITY OF WISCONSIN-STOUT


Major Rehabilitation Statuses
Process of Referral to Rehabilitation Facilities
Rehabilitation Facility Services
Intake, Referral, and Outreach
Diagnosis
Eligibility
Assessment
Vocational Evaluation
Plan Development and Completion
Adjustment Services
Skill Training
Service Provision
Restoration and Training
Employment Readiness Training
Placement and Follow-up
Placement
Closure
Current
Potential
Referral Processes and Services Primarily Within the Mission of other Vocational R&T Centers
Referral Processes Primarily Within the Mission of this Center
Facility Services Within the Mission of this Center

Vocational Evaluation. In Vocational Evaluation, the emphasis is upon the accurate assessment of handicapped individual's functional ability in the vocational area. Though a wide variety of psychometric techniques (such as interest, aptitude, and intelligence testing), and counseling are used, the distinguishing feature of Vocational Evaluation is that of assessing vocational functioning utilizing techniques such as work sampling, situational assessment, and other direct occupational assessment techniques.

The purpose of Vocational Evaluation is to provide an assessment of the vocational potential of the individual and to communicate this information to the individual and to the referral source. The competencies required by a vocational evaluator are varied and cut across disciplines of psychology, industry, occupational and physical therapy, education, and others.

Vocational Adjustment. Unlike Vocational Evaluation, which has become more and more specifically defined as a service entity, Vocational Adjustment has evolved as a remediation service intended to treat a variety of personal, social, and work habit deficits which pose barriers to full vocational development. The definition of Vocational Adjustment has not been accomplished, but the major feature is that of effecting behavioral change which enhances an individual's ability to function in the work setting.

Placement. In contrast to Vocationl Evaluation and Adjustment which concentrates on assessing and enhancing vocational potential, Placement services utilizes techniques which prepare the client to obtain and maintain a specific job. The techniques utilized in Placement rely heavily on skill building activities such as in employment readiness training, job analysis, and job development. The Placement process also bridges the gap between rehabilitation in industry.

Rehabilitation Resource Development and Management. Though the Center's mission area focuses upon service programs such as those above, it would be naive to study those services without considering the context within which they are delivered (facility-state agency rehabilitation system) and the interrelation of service goals and outcomes. The need exists to study variables which effect the flow of clients between the state agency and facilities to increase the effective utilization of these services and to determine the need to modify existing programs and/or develop new ones. There is also a need to examine methods for enhancing the research resources of the Center through joint efforts with other institutions and agencies.

The development of research issues is necessary for each area. In Figure 3, the relationships the current Center's projects have to the four lines of programmatic research are given. These projects will be more specifically discussed in Section 11 on "Current Year's Activities."

Present Research. The brief overview of the lines of programmatic research indicates that research issues within each area are not clearly developed nor prioritized. The need exists for a systematic analysis of each of the service areas to fulfill the requirements that research is programmatic and responsive to service needs, that research and training are mutually supportive, that outside resources are utilized and that resources are allocated for the dissemination of research results and implementation of new techniques.

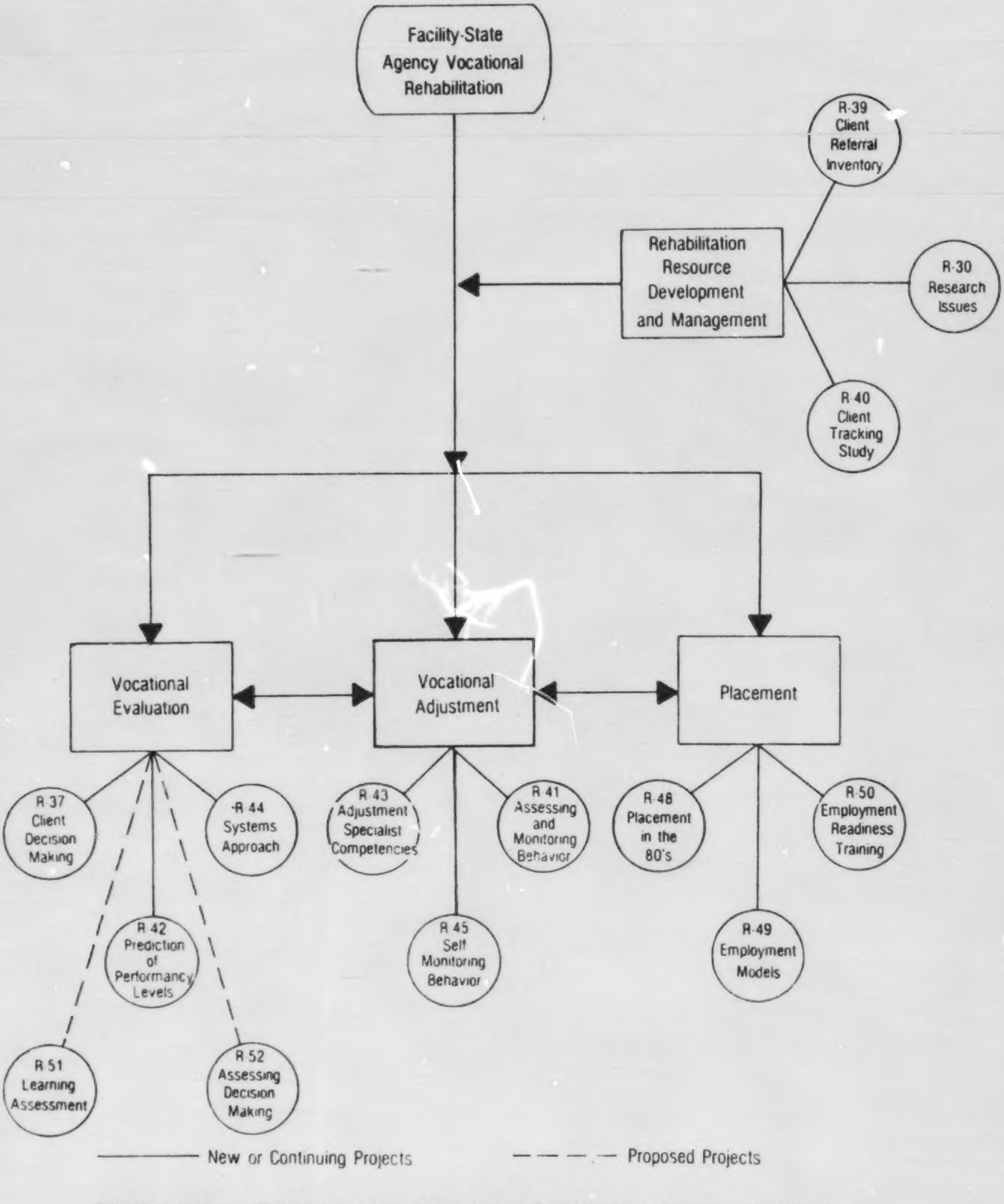

Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 3: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

The purpose of this project is to deal with these needs by: (1) conducting a systematic analysis and issue identification on the role and function of facility-based programs in the rehabilitation state vocational rehabilitation agency clients; (2) developing a programmatic research strategy which will reduce or remove the knowledge gaps related to the identified issues; (3) conducting pilot studies; (4) developing specific research proposals which will deal with knowledge gaps; (5) integrating the findings of these projects, as well as the findings of research by others, into a systematic body of knoweldge; and (6) allocating resources for the dissemination and utilization of this knowledge.

7. Objectives

The goal of this project is to develop, implement, and monitor lines of programmatic research and research utilization activities within the mission area of the Center.

This goal will be attained through the following specific objectives:

1. To identify researchable issues in assessment/diagnosis, adjustment to work, placement, and service delivery utilizing the Center Advisory Committee, NIHR RTC strategy, state rehabilitation agency personnel, rehabilitation facility personnel, and other input sources.

2. To develop the Center's programmatic research strategy and research utilization plan based upon identified researchable issues, knowledge gaps, and priority concerns.

3. To prepare issue analysis and position papers based on literature reviews which identify specific knoweldge gaps and which formulate researchable problems.

4. To conduct pilot studies which demonstrate reserach feasibility and/or resolve methodological and instrumentation issues related to identified knowledge gaps and researchable problems.

5. To develop research project proposals for submission to the Center's Advisory Committee, RSA Regional Office, and NIHR for review and approval.

6. To review the findings of Center programmatic research activities with the Center training section to insure that optimal dissemination and utilization of all findings is occurring.

7. To monitor and evaluate Center programmatic research and research from other sources related to client selection, rehabilitation planning, and the service delivery for the purpose of periodically revising the programmatic research strategy, research priorities, research activities, research dissemination and utilization procedures, and training activities.

8. To make available for dissemination, research findings from Center supported activities which are not included in other formal Center's projects.

8. Methodology

It is clear from the project objectives that the major functions of this project are the development and operation of systematic and integrated lines of programmatic research related to vocational assessment, vocational adjustment, and placement. Consequently, the project does not fit the "typical" research model. The description of the project methodology will focus on the means by which the products of the project will be developed.

Program Strategy

The initial strategy involved the formulation of the Center's mission and lines of programmatic research, the initiation of a reorganization of the Center in 1977, and the decision to initiate this type of developmental project to integrate the research and training functions of the Center. The Regional Advisory Council plays a continuing role in refining the program strategy.

Issue Analyses

Once the program strategy has been specified, issue analyses are then developed. These issue analyses are concerned with: 1) the analysis and synthesis of existing knowledge related to the issue based upon literature reviews; 2) the identification of knowledge gaps which prevent resolution of the issues; 3) the formulation of specific researchable problems or questions which need to be answered to remove the knowledge gaps; and 4) identification of priorities and allocation of resources for dealing with the researchable problems and questions (i.e., should the answers be sought through research conducted by the Center, state rehabilitation agencies, rehabilitation facilities, outside contractors, etc.).

It is anticipated that some of these issue analyses may be done internally by Center staff. Others, however, may require the convening of conferences, similar to the Critical Issues in Vocational Evaluation Conference conducted by the Center in June, 1976. This Conference focused on the issues of norms, reliability, and validity in Vocational Evaluation. Center staff were responsible for developing initial literature reviews which were circulated to the attendees prior to the Conference. The Conference attendees then used these materials to formulate specific research problems and questions. The overall product was a report which contained the original Center developed literature reviews and the participant developed researchable issues related to both technical and programmatic problems in Vocational Evaluation (Dunn, Korn, & Andrew, 1976).

The preparation, development, and publication of specific issue analyses will follow the sequence of issues identified in the program strategy.

Pilot Studies

The state-of-the-art in vocational rehabilitation research is still very primative, with the result that there are important identifiable research problems which cannot be properly addressed unless certain methodological, measurement, and instrumentation problems are resolved. For example, an instrument which has been a well accepted measure of a particular variable in psychological or educational research may not be usable with a low literate vocational rehabilitation population or a research design based upon random assignment of subjects to treatments may not be a feasible approach in an operational program setting. The purpose of pilot studies is to determine whether it is feasible to conduct a research project related to an identified problem. These projects are brief in nature and use a limited number of subjects. The basic intent is to determine such things as whether a design can be implemented, an instrument can be used, a coding system is reliable, etc.

The results of pilot studies are primarily included in research project proposals, and not disseminated separately. There will be times, however, when an issue analysis coupled with the data from pilot studies may provide a particularly timely and meaningful piece of information and warrant separate distribution. For example, this route was taken with the recent Center issue analysis in the area of use of competitive norms in Vocational Evaluation. Pilot data indicated that the use of competitive norms and industrial standards with a work sample without providing opportunity for practice resulted in a serious underestimation of individual performance capacities. It was found advisable to disseminate these preliminary findings immediately (Dunn, 1976). Other research sources such as rehabilitation facilities, agencies, or individuals who receive limited support (such as consultation and data analysis) are also provided an avenue for publication of findings if warranted.

Project Proposals

Project proposals are submitted in the Annual Progress Report or at other times during the year as appropriate. One management objective of the core developmental project concept is to insure that the development and submission of project proposals is a continuous process, rather than one in which ideas are "saved" for the Annual Progress Report. The activities and products described above should insure the specific project proposals within this core area will meet the following criteria: 1) specific relationship to programmatic research strategy; 2) adequate review of relevant literature; 3) clear definition of specific knowledge gap or problem; 4) adequate methodology for resolving knowledge gap/problem with pilot tests when necessary; and 5) adequate utilization plan for findings by both rehabilitation in general and the Center.

Timelines

The time schedule presented here is based on the current project period of five years. The activities during each year can only be scheduled with a general degree of precision. Activities for the succeeding years are highly dependent upon the outcome of each year's progress.

May, 1977	Begin development of programmatic research strategy; begin development of issue analysis related to client and professional use of assessment and evaluation data.
August, 1977	Complete development of drafts of initial programmatic research strategy and issue analysis; submit to Advisory Committee for review.

September, 1977	Revise programmatic research strategy based on obtained input; identify researchable issues and place into priority order; initiate necessary pilot studies.
December, 1977	Develop specific project proposals and submit for Advisory Committee review and input.
February, 1978	Submit detailed programmatic research strategy in Annual Progress Report and specific project proposals, as appropriate.
August, 1978	Revise programmatic research strategy; identify any areas for issue analysis; review progress and identify project topics.
September, 1978	Obtain Advisory Committee review and input.
February, 1979	Summarize progress and devise plan for annual Progress Report.
August, 1979	Revise programmatic research strategy; identify areas for issue analysis; review progress and identify project topics.
September, 1979	Obtain Advisory Committee review and input.
February, 1980	Summarize progress and devise plan for annual Progress Report.
August, 1980	Revise programmatic research strategy; identify areas for issue analysis; review progress and identify project topics.
September, 1980	Obtain Advisory Committee review and input.
February, 1981	Summarize progress and devise plan for annual Progress Report.
May, 1981	Review total project; identify any unsolved issues, review materials for full utilization of applications; establish final dissemination/utilization plan.
September, 1981	Complete ongoing reports in core area; begin preparation of final summary report.
December, 1981	Complete all reports.
April 1, 1982	Submit competitive application for renewal of Center grant.

9. Relevance of Project

The first five years of Center research activity have pointed out the need for having a developmental project within the area of programmatic research. Such a project 1) integrates research activities into a cohesive set of goal and objective oriented activities,2) provides accountability for staff time and other resources relating to developmental activities (issue analysis, literature reviews, pilot studies, proposal preparation, etc.); and 3) provides for optimal review, revision, and utilization activities related to core areas of programmatic research.

10. Client Characteristics

Characteristics of the clients involved in completed studies reported in Section 11 are not reported due to the multiple sources of the research and large numbers.

11. Current Year's Activities

Each year, the activities undertaken to guide the Center's research effort consist of (1) specifying, analyzing, and prioritizing the issues within each line of programmatic research; (2) conducting pilot studies as appropriate; and (3) developing proposed research based on (1) and (2). This year's activities include a re-organization of the Center's lines of programmatic research to include the area of Placement and a further refinement of research in the "Utilization of Services" line which was renamed: "Rehabilitation Resource Development and Management." Each line of programmatic research and the new, continuing, and proposed research in these lines will be addressed separately (see Figure 3).

Rehabilitation Resource Development and Management

In this line, the present project (R-30) addresses certain basic issues within developing and managing research which have already been elaborated upon. The second emphasis within this line is upon issues in service delivery and impact of facility services. Though the prime focus is not on program evaluation research *per se*, it is impossible to study specific programs such as Vocational Evaluation, Adjustment, and Placement without having the background knowledge of issues within program evaluation of services. The results of the issue analyses in this area indicates that the most pervasive issue that is relevant for our purposes is measurement. Within this issue, we have subdivided measurement into two priority areas: 1) measurement of the client and; 2) measurement of the system's impact on clients. Two projects parallel these priority issues, but they both have limited objectives. First, they are limited by the Center's mission area, in that they are designed to assist progress in our main focus on facility-state-agency vocational rehabilitation and on the services of Vocational Evalaution, Adjustment, and Placement. Secondly, they are limited in that their purpose is to provide resolving knowledge gaps related to these services and not toward the entire rehabilitation system. The latter emphasis is more appropriate to the Research and Training Centers at West Virgina and Arkansas.

In the area of measurement of the client, the question is how can we measure clients' functional capacities so that the impact of rehabilitation programs can be assessed. The ideal situation would be the development of a comprehensive instrument which validly measures an individual's total ability to interact with the environment. Thus, client's "functional capacities" could be established at intake and the effect of rehabilitation services which he receives could also be measured. Such an instrument could be used for policy decisions, program decisions, and practice decisions, and, thus, impact on clients in general and the specific client. Such research is being conducted in project R-39 to construct a "Client Referral Inventory."

In the second study, A Client Tracking Study (R-40), the focus is upon the impact of the system on clients in general. The project looks, not at the measurement of client's functional capacities, but rather on gross measures of client outcome in relation to the services these clients received. It utilizes data from only one state (Wisconsin), but on an in-depth basis. This study not only is providing information about what happens to different clients as a result of their participation in the rehabilitation process, but also provides needed baseline data so that when recommendations are made for changes in different services, such as those the Center studies, the affect can be assessed.

Vocational Evaluation

Vocational Evaluation consists of utilizing various specific techniques for assessing the vocational potential related to the development of the Individually Written Rehabilitation Plan and other purposes. Issue analyses revealed that several important issues are involved. For example:

1. What is the validity and reliability of the work sample methodology and what is the extent of predictive validity.

2. How do you judge the successfulness of Vocational Evaluation in concrete terms. The criteria of successful rehabilitation outcome such as placement is inappropriate since Vocational Evaluation is a planning process.

3. What norms should be used in work sample methodology and to what extent does the norming criteria result in the unnecessary screening out of clients from further services such as specific skill training, or recommendations for entry into various occupations.

4. Though Vocational Evaluation is an assessment process, it is also a planning process. Planning, to be effective, must involve the client. To what extent are clients capable of making vocational decisions and what skills should be enhanced if vocational decision-making is a barrier.

5. How do the disability characteristics, other demographic variables, referral rationale, and other situational variables affect the structure of vocational evaluation (methods, instruments, length, client-staff ratio etc.)

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6. Though Adjustment Services do not always follow Vocational Evaluation, what issues within Adjustment Services have impact on the processes of vocational assessment.

7. Similarly, though the process of Placement is not typically an immediate outcome of Vocational Evaluation, what issues within Placement have impact on the process of vocational assessment.

8. What impact do current changes in the rehabilitation system have upon the process of Vocational Evaluation. Two current trends of concern are: (a) Independent Living and (b) Private for Profit Rehabilitation.

There are more issues and even sub-issues under those listed above. Each of the issues are important, but the Center cannot simultaneously pursue them. Vocational Evaluation is a maturing technology and widely used throughout the rehabilitation community, but not consistently provided in the same way. This problem issue (5) above, is being studied in a continuing project Vocational Evaluation - A Systems Approach (R-44). A comprehensive national survey of Vocational Evaluation programs is being conducted to analyze the convergent and divergent practices of vocational assessment within the context of a system (i.e., what are the target populations, funding bases, evaluation techniques, strategies, etc.). The purpose of this research is to delineate effective and efficient models for delivery of Vocational Evaluation Services.

The issue of validity and reliability has been studied with respect to the effect of norms, on vocational evaluation recommendations in previous projects and is currently being studied again, but more from the aspect of predictive validity. In The Use of a Microprocessing System to Predict Practiced Performance Levels from Initial Task Acquisition Measures (R-42), the title nearly explains the project. The project has two purposes; (1) to review learning theory and associated techniques for enhancing accurate predictions of skill level and (2) to make such techniques more easily applied in practice through the use of an inexpensive microprocessor system.

A second concern within this area has been the applicability of the emerging theory of learning styles to the assessment process. A proposed project (R-51), An Evaluation of the Role and Utility of Learning Assessment Instruments in Rehabilitation. The purpose of this research is to first examine the applicability of learning style assessment within vocational assessment. The second purpose is to conduct selected experiments relating to critical factors for incorporating the theory and technique into vocational assessment.

Another issue the Center is currently examining within vocational assessment is the capacity for handicapped individuals for making decisions relating to their vocational future and participation in the rehabilitation process. A second proposed project, Assessment of Selected Vocational Decision-Making Capacities of Vocational Rehabilitation Clients, (P)R-52), addresses this issue with a formal methodology for refining the Decision-Making Interview (DMI). The DMI was developed under project R-37, and was an initial project in the area of vocational decision-making.

Vocational Adjustment

Vocational Adjustment Services are less defined and the issue analysis within this area is less specific. Previous research and training efforts in Adjustment Services have made it relatively clear that the prime priority research issue is the definition of Adjustment Services so that priorities can properly be assigned. On the other hand, our previous efforts have also indicated that on a practical level, Adjustment Specialists have critical, immediate needs for techniques for implementing behavioral change programs.

Our research strategy has been to attempt to meet both needs. In R-43, Adjustment Specialists' Competencies, research is underway through a joint Research and Training staff effort to identify and clarify the competencies needed by Adjustment Specialists and to develop resources and materials relating to enhancing these competencies. In the area of behavioral change, the research component of two studies has been completed and appropriate publications on the selected techniques are being prepared. In R-41, Assessing and Monitoring Behavior, a training package is being developed on the Center generated behavioral observation system: Point Sampling. In R-45, Self-Monitoring of Behavior, selected aspects of the techniques of self-management of behavior was explored in an adjustment program and the review of the literature and factors in implementing these techniques is being prepared for dissemination.

Placement

Issue analysis within the Placement line of programmatic research was initiated in July of 1980 when three new projects were proposed. The Center did receive additional funding in October of 1980 to implement these projects and has used several internal and external review resources to assist in refining these issues which are more clearly specified in Project R-48, Placement in the 1980's. The activities of that project include a state-of-the-art review, an analysis and comparison to the Center's previous work and conclusions made in 1974, and the development of a dictionary of Placement terms.

In R-49, An Information System for an Industry-Based Employment Model, a joint effort between the Center and the Electronic Industry Foundation's national Projects With Industry is focused upon enhancing access to employment of handicapped individuals in the electronics industry.

The third project in this new line of research examines the skills that different handicapped individuals require in preparing for, seeking, and maintaining employment. The title of that project (R-50) is Employment Readiness Training: In Search of a Model and reflects the need and problems associated with enhancing the placeability skills of handicapped individuals.

Pilot Studies. The pilot studies which are conducted under this project serve a number of purposes. Such studies are usually conducted by other researchers under the supervision of the Center staff. First, the research capability of the Center is enhanced. Secondly, these studies provide the necessary data to determine feasibility of proposing formal research projects. Third, since doctoral and master's level students usually conduct the studies, vocational rehabilitation researchers are given practical training in applied research and benefit from the Center's research expertise and resources. Fourth, more field research is conducted than the Center has been conducting which, when disseminated, generates spin-off applications such as the utilization of research findings and research techniques.

In the past year, seventeen research pilot studies have been supported by the Center in one way or another. Two of these studies were completed doctoral dissertations at Michigan State University (MSU), and another is a proposed doctoral dissertation there. The fourth effort at MSU involves an international graduate student who is working with the Center through the University Center for International Rehabilitation. Five additional doctoral dissertations received some limited support from the Center (research advisement, supplies, and/or access to computer analyses). These dissertations were or are being completed at the University of Minnesota, Colorado State University, Virginia Polytechnic Institute, and Illinois Institute of Technology. Seven other pilot studies were completed, current, or proposed masters thesis at Stout the last is a proposed masters thesis at Loyola University (Baltimore). Finally, two work samples were developed under Center staff supervision. The following is a brief description of each pilot study.

Bates, L. Vocational Evaluation of the Severely Physically Impaired. Michigan State University. In Preparation. The study included a review of the literature on evaluating the vocational potential of the severely disabled with particular focus upon the severely physically impaired. Currently a manuscript is being revised which offers guidelines on this subject and a survey of field efforts will be conducted by April. Scheduled completion is June, 1981.

Carlson, L. Reliability and Validity of a Video-Taped Segment of Client Behaviors When Utilized in the Training and Monitoring of Behavioral Observers. Proposed Master's Thesis, University of Wisconsin-Stout, 1981. In this study, a video-taped segment of client behavior will be developed as an outgrowth of the activities completed in the study entitled, Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services (R-41). A panel of rehabilitation experts, familiar with behavioral observations systems such as Point Sampling, will review the video-tape and develop criterion for exhibited behaviors. The video-tape will be utilized with personnel completing training in the Point Sampling approach, with inter-rater agreement and accuracy ratings being computed. The product of the research will become part of the training package of Point Sampling and behavioral observation techniques.

Crimando, W. Color-Form Salience and Stroop Interference in Mentally Retarded Clients: An Exploratory Study on the Relationships Among Cognitive Style, Task Performance, and General Work Adjustment Characteristics. Completed Dissertation, Michigan State University, May, 1980. Individuals vary in the manner in which they receive and respond to the environment. A growing body of research suggests that these differential modes of learning can be described and have an impact on assessing client's ability and the design of intervention strategy. These learning characteristics of the individual have been called cognitive styles, cognitive maps, and learning capacities. Such techniques are being applied in technical schools, high schools, and rehabilitation facilities. The question is, "How viable are these methods and do they offer new insights or simply a different name for aptitudes?" This research examined the effort of related cognitive styles upon task performance and their implication for cognitive development. The research served as a pilot study for (P)R-51 on Learning Assessment. An article on this topic will be submitted to the VEWAA Bulletin.

Deaton, R. The Relationship Between the Use of Incentives for Employing Handicapped Individuals and Employer Attitude. Current Master's Thesis. UW-Stout. A survey was sent to nearly 900 different employers which was designed to collect information on the use of available incentives for hiring the handicapped and beliefs about the impact of hiring the handicapped on aspects such as safety record, productivity, etc. The estimated return rate is 30% and no analysis have been conducted.

Deborah Decker. Cost Effectiveness of Vocational Evaluation to CETA Program. Masters Thesis, UW-Stout, August, 1980. This study was done to determine the cost-effectiveness of Vocational Evaluation Services to the CETA Program. The design of the study used was stratified random selection of 30 files of CETA clients who participated in the CETA program between September, 1977 to March, 1978 who participated in Vocational Evaluation Services offered by Kandu Industries in Holland, Michigan. These files were matched with 30 client files who participated in CETA program during the same period, based on similar sex, educational background, work history and age. The 90 day follow-up placement information was used to determine positive employment or non-positive employment. Results of the study suggested no significant difference in the outcome between those CETA participants who utilized Vocational Evaluation Services and those who did not utilize Vocational Evaluation Services.

Ellien, V. The Impact of Independent Living on Vocational Evaluation. Independent Study. Michigan State University, 1981. This research will examine the impact of independent living services in relationship to traditional vocational rehabilitation services, especially vocational evaluation. This project was a formal proposed project of the Center (see R-46 in Progress Report #9), but the Center had insufficient funds to initiate the project. The topic is currently under review for initiation as a proposed dissertation topic commencing in June, 1981.

Herbert, J.T. Attitudinal and Therapeutic Effects of Vocational Evaluation. Completed Master's Thesis. University of Wisconsin-Stout, 1980. Vocational evaluation has traditionally been considered a diagnostic process to examine an individual's vocational potential. However, the possibility that the client may gain therapeutic benefit as a result of this process has been reported by several practitioners in the field. Recently, attempts to assess possible therapeutic and/or attitudinal change empirically have also been reported. Consequently, attempts to combine clinical observations and research efforts into a systematic review of the literature appear non-existent. The focus of this paper attempts to synthesize existing knowledge and make implications for further study. Major findings and implications were: 1) research concerning the topic is limited and conclusions about therapeutic and attitudinal change are contradictory; 2) there is a need to identify in exact terms the process of vocational evaluation and how this process is applied in research; 3) other variables contributing to therapeutic changes such as length of evaluation, methods used to assess vocational potential, and characteristics of the evaluator and client's need to be explored; and 4) alternative designs should be included in further research.

Herbert, J.T. Effects of Client Involvement in Vocational Evaluation on Locus of Control and Career Maturity. In Progress. Master's Thesis. Loyola College, Maryland, 1981. An interrupted time series design is employed to determine the extent to which changes in clients' perceived sense of control over their vocational lives and their attitudes toward working are related to the degree to which they are actively involved in vocational evaluation. Approximately 60 clients and the vocational evaluators at the Vocational Development Center at the University of Wisconsin-Stout are subjects in this research.

Jensen, T. The Influence of Vocational Education and Training in the Ability of Minnesota Handicapped Adults to Participate in the World of Work. In Progress. Dissertation. University of Minnesota, 1981. This study measures the effects of vocational education, vocational training, and related services at the secondary level on handicapped young adults to function in the world of work as determined by post-high school employment activities. This research examines the 1) differences in post-high school education and work patterns between handicapped individuals who enrolled in vocational programs while in high school and those who did not; 2) the relationship of vocational education and related services at the secondary level to the ability of the handicapped young adult to successfully participate in the world of work as determined by post-high school employment activities; and 3) differences in post-high school education and work patterns between handicapped and non-handicapped individuals.

McCrowey, G.A. Social Exchange Theory and the Rehabilitation Process. Doctoral Proposal. Illinois Institute of Technology, 1980. The interaction between a client and a counselor can be viewed as a social exchange. Social Exchange Theory can be applied to the client/counselor dyad as a way of examining how the basic concepts of this theory can explain differences in eligibility determination and other outcomes within the rehabilitation process. The similarity between individuals in social dyad is hypothesized to affect the purposes of the social exchanges. Individuals who are similar in their backgrounds, beliefs, and social status are expected to benefit more from the social exchange process than those who are dissimilar. The purpose of this research is to examine the effect of similarity between rehabilitation clients and their counselor on the results of eligibility determination and rehabilitation outcome, and the time involved in reaching these outcomes.

McNeal, A.R. Using Contingency Contracts in Work Adjustment: An In-Service. Completed Master's Thesis. University of Wisconsin-Stout, 1980. Effective methods of improving a client's work behavior are very much needed in rehabilitation. The work behavior of many clients is inappropriate and therefore, effective methods of changing behavior are needed, but sometimes not known. The purpose of this in-service is to train rehabilitation facility workshop supervisors, who have had little or no training in behavior modification techniques, namely Contingency Contracting. Due to the nature of this research, the design is developmental. The purpose is to develop effective materials and procedures for use by rehabilitation practitioners in the use of "contingency contracts." The in-service model that has been developed is anticipated to be of significant value as a training curriculum format, however, its utility will be ultimately determined by application in a training situation.

Modahl, T.A. A Differential Profile Analysis of the General Aptitude Test Battery for Rehabilitation Clients. Doctoral Dissertation. University of Northern Colorado, 1980. The purpose of this study was to determine if there was an alternate method of interpreting GATB profiles of clients whose G score was 85 and below and S score of 100 and above. The sample consisted of 65 vocational rehabilitation clients whose GATB score differed in that manner and on whom full scale WAIS's were available. The study attempted to determine whether GATB S scores were more highly correlated with their WAIS full scale score than their G score; and whether with a high S score and low G score, the S score is a better predictor of the WAIS full scale score than is the G score. The results of this study indicated that either the G or S score is a fair predictor of a person's WAIS full scale score. However, it was found that the G score may be an underestimator and the S score an overestimator of the WAIS full scale score. Therefore, it is suggested that counselors not attempt to predict a person's potential from these scores among this population and are advised to conduct further testing to validate the GATB results, before suggesting vocational goals.

Roy, R.R. Employer Concerns Regarding On-The-Job Training. Completed Master's Thesis. University of Wisconsin-Stout, 1980. This research investigated employer concerns and issues regarding on-the-job training. Research hypotheses and questions related to the incidence of on-the-job training, (overall and within varied company sizes and occupational groupings) financial features, manpower-related practices, and implications affecting disabled persons and vocational rehabilitation programs were focused upon. A locally developed questionnaire was constructed and mailed to a stratified random sample of 100 manufacturers in Massachusetts. A telephone survey was used to reach non-respondents to the mailed questionnaire. Results indicated a high degree of use of on-the-job training as a manpower development resource in the manufacturing spectrum. Employers invest directly into on-the-job training, provide it in several occupational areas, and find it to be desirable and effective. Given that a very low level of disabled individuals were found represented in on-the-job training, the results suggest the need for increased use of on-the-job training as a potentially productive resource in vocational rehabilitation programming.

Schneck, G.R. A Study of the Variability in Diagnostic Data Usuage and Educational Prescription for Vocational Special Needs Students with Handicaps. Completed. Doctoral Dissertation. University of Minnesota, 1980. The primary purpose of this study was to investigate the diagnostic and prescriptive processes which are or could be used with handicapped students in Minnesota Area Vocational-Technical Institutes(AVTI). Thirty-two post-secondary vocational special needs practitioners from Minnesota AVTIs took part in the study. Two case studies simulating students with handicaps, as well as a questionnaire, were developed by the investigator to collect relevant data for the study. Analyses indicated that individual practitioners remain consistent in the amount and types of diagnostic and prescriptive services which they utilize with students having differing handicaps; but, variability did exist in the amount, type and order of selection of diagnostic and prescriptive services by different practitioners with the same handicapped student. Several conclusions were reached relating to evaluating the efficiency of an individualized education program (IEP).

Schumacher, J. An Inventory of Social Interactions. Completed. Master's Thesis. University of Wisconsin-Stout. May, 1980. In this study, an observational format was developed for determining the characteristics of clients in a social interaction situation. The Inventory uses verbal and non-verbal behavior in relation to a client's "presentation style." The research developed a rating instrument to assess the manner in which an individual presents themselves in an interview situation in terms of whether they are "aggessive" or "passive," and examined the behavior indices of aggressiveness or passivity.

Verdermolen, T. Effects of Self-Monitored vs. Staff - Monitored Behavior of Mentally Retarded Clients in a Work Adjustment Setting. Completed. Doctoral Dissertation Topic. Michigan State University. 1981. This research study is a newly completed doctoral dissertation for the Rehabilitation Counseling Program at the Michigan State University. The purpose of this study was to determine the relative effectiveness of self-monitoring and staff-monitoring procedures on the improvement of the productivity of mentally retarded clients in a Work Adjustment setting. This study represents a pilot study to obtain needed data on the effects of self-monitoring on individual work behavior and performance. Results of this study will provide information pertinent to the refinement of the methodology of Center research (R-45: An Analysis of Self-Monitoring on Work Skills of Vocational Adjustment Clients). A more detailed discussion of self-monitoring procedures and the methodology considered for this project may be found in Section 11 of Project R-45.

Waddell, F. The Effects of Experiential Consumer Education on Post-Graduate Consumer Behavior. In Progress. Dissertation. Virginia Polytechnic Institute, 1981. The differences in effects of traditional lecture methods and experiential methods of interaction on purchasing behaviors of former home economics students at the University of Wisconsin-Stout are examined. Six hundred students formerly enrolled in the program between 1976-79, are surveyed with a locally developed questionnaire to determine whether there are significant differences in consumer attitudes, purchasing behaviors, and search for and use of consumer information. The effects of six years of graduation and work roles are investigated, as well as instructional approach.

Previous Studies.

One of the major objectives of this developmental project (R-30) is not only to stimulate research related to the Center's mission, but also make available these research findings. Since the Center staff began advising students, research has been completed on a wide range of topics which are related to some aspect of the Center's mission. Past studies which have received support form the Center's staff are given below. A complete list of these studies has been published in the February, 1979 issue of the Center's *RTC Connection*. These studies include:

Adamczak, M. *A survey of the implementation of Vocational Evaluation results*. August, 1977. Unpublished masters thesis, University of Wisconsin-Stout.

Bashynki, T. *Work values among first and recidivist offenders*. August, 1977. Unpublished masters thesis, University of Wisconsin-Stout.

Bode, M. *Characteristics of appropriate and inappropriate referrals for Vocational Evaluation*. May, 1974. Unpublished masters thesis, University of Wisconsin-Stout.

Braminz, B. The usefulness of a job site tour as a method of occupation exploration. August, 1975. Unpublished masters thesis, University of Wisconsin-Stout.

Browers, E. *The effects of practice and progressive part training and work sample performance of the mentally retarded*. August, 1977, Unpublished masters thesis, University of Wisconsin-Stout.

Chandler, A.L. *Client change in self-concept, vocational maturity, and decision-making skills following Vocational Evaluation*, 1978. Doctoral Dissertation, Michigan State University.

Depies, S.A. *The use of information in vocational decision-making by disabled persons*. August, 1977. Unpublished masters thesis, University of Wisconsin-Stout.

Esser, C. *Inter-rater and inter-item reliability study of the employability assessment scale*. August, 1976. Unpublished masters thesis, University of Wisconsin-Stout.

Fisher, G. *The inter-rater reliability of the functional capacities inventory*. December, 1977. Unpublished masters thesis, University of Wisconsin-Stout.

Fried, J. *Disabled persons' use of information in vocational decision-making*. August, 1977. Unpublished masters thesis, University of Wisconsin-Stout.

Goodman, R. *The effect of Muzak on shop performance in a work activity center*. August, 1977. Unpublished masters thesis, University of Wisconsin-Stout.

Hansen, G.J. *Mentally retarded adults as peer trainers: A critical analysis of relevant literature*. Unpublished masters thesis, University of Wisconsin-Stout, 1980.

Hein, R. *Client change in vocational maturity as a result of Vocational Evaluation Services*. 1979. Unpublished masters thesis, University of Wisconsin-Stout.

Kennedy, M. *Changes in task-specific self-concepts after Vocational Evaluation*. May, 1973. Unpublished masters thesis, University of Wisconsin-Stout.

Kruel, D. *Client behavior in two rehabilitation programs*. December, 1975. Unpublished masters thesis, University of Wisconsin-Stout.

Mann, C. *A human factors checklist for vocational evaluators*. December, 1972. Unpublished masters thesis, University of Wisconsin-Stout.

Mason, V. *Procedures of follow-up programs in rehabilitation facilities*. August, 1974. Unpublished masters thesis, University of Wisconsin-Stout.

McLaughlin, L. *Occupational stereotyping of sex and disability in the Vocational Evaluation process*. August, 1977. Unpublished masters thesis University of Wisconsin-Stout.

Mueller, J. *Relationship between work reinforcers, vocational needs, and reported job satisfaction for vocational evaluators.* May, 1973. Unpbulished masters thesis, University of Wisconsin-Stout.

Peck, D. *A study of the use of evaluation in high school programs for the hearing impaired*. August, 1976. Unpublished masters thesis, University of Wisconsin-Stout.

Pozarski, M. *Pre-knowledge of acceptable performance and goal setting in a work evaluation situation*. May, 1975. Unpublished masters thesis, University of Wisconsin-Stout.

Schlottman, V. *Effects of modeling on work behavior*. December, 1976. Unpublished masters thesis, University of Wisconsin-Stout.

Strohmer, D.C. *A study of the vocational decision-making skills of rehabilitation clients*. Doctoral Dissertation, Michigan State University, 1979.

Vincent, M.D. *The relationship between inventoried interests and occupational areas recommended for clients after Vocational Evaluation.* August, 1975. Unpublished masters thesis, University of Wisconsin-Stout.

Weinstein, H.P. *The impact of facility-based Vocational Evaluation services on referring Michigan Bureau of Rehabilitation counselors*. 1978. Doctoral Dissertation, Michigan State University.

Project Proposals. One of the major products that the activities of this project lead to is the development of proposed research projects for inclusion in the grant. The generation of these projects, not only includes the issue analyses and pilot studies, but also input from the Center's Advisory Council, University Research Screening Committee, and the University Committee for the Protection of Human Rights.

The generation of two proposed projects in this grant began in April of last year when the Advisory Council discussed and organized the areas which they perceived as important problem areas. The research staff translated these problem areas into research questions. Brief proposal were developed for the November Advisory Council meeting, in which the Advisory Council, as a whole, set priorities. The two research projects were then developed in full and reviewed for methodological soundness by the University Research Screening Committee in December. Finally, in January, the Advisory Council reviewed the two proposals and recommended submission in the current grant year. After NIHR review, the projects will be reviewed in June by the University Committee on the Protection of Human Subjects' Rights prior to implementation. Thus, the generation of research proposals is a complicated and lengthy process, but one which yields relevant projects of highest quality.

Satelite Centers. Another activity arising out of this developmental project is pursuing the establishment of long-term cooperative research with other resources. The RTC continues to use the Vocational Development Center, a part of the clinical program of the Institute, where over 1000 clients are served annually. The effort here, however, is directed toward programs external to the University. To a certain extent, we have such external relationships. For example, the joint effort at Michigan State University, the research relationship with three facilities in Minneapolis, utilized in R-41, is an example of a second type, the cooperative relationship with Wisconsin State Agency in R-40 is an example of a third type. The Center is also analyzing data on client change in an Adjustment program for a rehabilitation facility in Beaver Dam, Wisconsin. The Peckham Rehabilitation Center in Lansing, Michigan and the State Technical Institute and Rehabilitation Center in Michigan have been extensively used in research projects. The usefulness of these relationships in conducting research has led to studying procedures for developing satelite centers, not only for research, but also for training and other activities of the Institute. The directors of the Centers within Stout's Vocational Rehabilitation Institute are now drafting procedures whereby formal relationships between the University and external sources can be recognized and maintained.

Other Research and Training Centers. Several efforts were conducted to review research from other Research and Training Centers and other RSA funded projects. Stout hosted the annual meeting of Vocational Research Directors in October of 1979 at Menomonie, Wisconsin. The meeting assisted in highlighting the different and similar research efforts of the three Vocational Rehabilitation Research and Training Centers and a closer working relationship among the Centers has resulted. In 1980, the University of Arkansas, West Virginia University, and our Research and Training staff were extensively involved in the development of the sections relating to Vocational Rehabilitation for NIHR's five year plan.

12. Dissemination of Findings

Four types of products will emerge from this project: (1) Issue Analysis; (2) Pilot study findings; (3) Research project proposals; and (4) Training and Utilization reports.

Issue Analyses

Detailed issue analyses containing an identification of the issue, review of the current state of knowledge, identification of knowledge gaps, and researchable problems in the form of a strategy for systematically eliminating knowledge gaps will be a primary product of the project. These will be disseminated to RSA Central and Regional Offices, State Vocational Rehabilitation Agencies, rehabilitation facilities, other centers, and RCEP's and abstracting publications. When appropriate, the issue analyses will be prepared in journal article format and submitted to a rehabilitation journal for publication.

Pilot Study Findings

Pilot study findings will typically be included in project proposals submitted by the Center and, thus, will be disseminated primarily via the annual Progress Report and Summary. Then appropriate, highly significant pilot findings will be disseminated via Center publications (e.g., a working paper) or as a brief journal article.

Research Project Proposals

These will be disseminated primarily to the Center Advisory Committee, RSA Regional and Central Offices, and other R&T Centers.

Training and Utilization Reports

These will be non-technical reports focusing upon the integration and interpretation of research findings within the core area, and methods of applying the findings. These reports will be incorporated into Center training programs and/or separately disseminated as RTC Connections or Interfaces. The target groups for these materials will include state vocational rehabilitation agencies, rehabilitation facilities, and RCEP's.

13. Utilization of Findings

By Rehabilitation

The products of this project can be generally used in rehabilitation in the following ways: (1) to identify significant issues and knowledge gaps related to the role and function of the facility-based vocational assessment and evaluation programs in client selection and rehabilitation planning; (2) to identify research priorities and to allocate resources to research on an orderly, systematic basis; (3) to resolve specific problems related to the design and instrumentation of research; and (4) to apply and implement new approaches and procedures which will enhance the use of facility-based services in client selection and planning.

By Center

As has been indicated above, the project is a developmental project which will serve to organize and integrate a series of programmatic research activities on vocational assessment and evaluation in client selection and planning. The Center will be a primary user of the products of this project in: (1) setting research priorities; (2) allocating research resources; and (3) applying research findings.

14. Policy, Program, and Practice Changes

The project has implications for change in policy, program, and practice. These have been specified in some detail in preceding sections of this protocol. They include: (1) policy--the identification of research priorities and allocation of research resources; (2) program--identification of programming issues, knowledge gaps, and the development of new knowledge needed to reduce the gaps and resolve the issues; and (3) practice--the identification of priority practice issues and knowledge gaps, and the development of practices and techniques to resolve the issues.

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Dunn, D., Korn, T., & Andrew, J. Critical Issues in Vocational Evaluation. Menomonie, WI: Research and Training Center, 1976.

Dunn, D., et al. Vocational Evaluation services in the human services delivery system. Vocational Evaluation and Work Adjustment Bulletin, 1975, 8(Special Edition), 7-48.

Nagi, S. Gate-keeping decisions in human services organizations: When validity fails. Human Organization, 1974, 33(1), 47-58.

Scheinkman, N. The unsuccessful state vocational rehabilitation client: An Analysis. Research Report VI: The "severely disabled" Factors associated with "successful" and "unsuccessful" outcomes. Menomonie, WI: Research & Training Center, 1975.

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RESEARCH PROJECT REPORT　　　Project No. R-39

1. Title A Client Referral Inventory for Service Delivery

2. Project Status (Check):
Proposed ___ New ___ Continuing x Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 7/78 (mo/yr) Expected Completion: 5/82 (mo/yr) Completed: ___ (mo/yr)

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Fredrick E. Menz, Ph.D.	Measurement and Assessment	10	30
James Herbert, M.S.	Rehabilitation	20	30
Charles C. Coker, Ph.D.	Psychology	5	5
Vacancy	Computer Specialist		5
Clerical		5	10

5. Financial Data:
Estimated Cost From Beginning to End of Project: $108,430

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	10,530	23,993	1,433	2,540			11,963	26,533
Supplies and Other Expenses	2,507	3,546					2,507	3,546
Travel	945	1,567					945	1,567
Equipment								
Indirect Costs Allowed by DE	2,097	4,366	4,391	7,917			6,488	12,283
Total	16,079	33,472	5,824	10,457			21,903	43,929
Percent	73	76	27	24			100	100

*For report year and continuation year

6. Statement of the Problem

Purpose

The general problem in rehabilitation with which this study deals is the effective utilization, planning, and delivery of evaluation and adjustment services to the disabled. A Client Referral Inventory (CRI) is conceived as a tool which vocational rehabilitation counselors, evaluators, and adjustment specialists can commonly use in communicating and in planning and delivering Vocational Evaluation and Work Adjustment services. The project will lead to development of a CRI which is sufficiently valid for use with individuals or groups of clients and can effectively summarize the progress of those clients through their rehabilitation. Through state-of-the-science reviews of published and pilot research, the project will also provide the basis for designing subsequent studies of the effects of the individual and commulative effects of rehabilitation services.

Introduction

There are two corrallary concerns which plague those involved in the vocational rehabilitation of persons with disabilities: (1) how programs and services affect clients; and (2) how to consistently insure that the programs and the services provided to clients are commensurate with their needs. Both of these concerns ultimately revolve around collecting (or measuring) and using information about clients.

Perhaps the issue which both practitioners and advocates are most continually concerned is that of how clients are affected by vocational rehabilitation. The opinions and expectations of different groups will be widely different: the scope of their understanding of the rehabilitation program wherein they expect these effects to come about will be different; their beliefs as to what in the client's development should and should not be affected will be variable; and the information they can draw upon in support of or to test their opinions and expectations will be incomplete as there is a lack of substantive knowledge on this issue. In spite of limitations in our knowledge, the program and its services (evaluation and adjustment in particular) are expected to affect clients in important ways. Because there are such general expectations and because we do not know how and along what dimensions of the client's development the program and its services impact, research is needed. In particular, there exists a need for research which will integrate our current knowlege about how rehabilitation and evaluation and adjustment services affect clients and which will provide an integrated picture of what dimensions of client development are and are not affected by rehabilitation and those services provided as part of the rehabilitation process.

The concern with effects or outcomes is an overriding one of administrators, evaluators, adjustment specialists, counselors, program evaluators, researchers, and trainers; especially as changes are either introduced into the programs as a result of legislation or as better definitions of program purposes and intents are attempted by service providers. This concern has been most aptly intensified with the advent of accountability, particularly among administrators and program evaluators. Estimation of the outcomes or effects of programs is particularly the focus of all program evaluation projects and major infusions of federal and state vocational rehabilitation dollars have been given to identifying or developing the best estimates of program effects. These infusions are important, if for no other reason than that the programs have developed some needed benchmarks against which to judge the continuing or changing health of the rehabilitation program and the continuing or changing contributions made by particular parts of that program.

The concern which practitioners (counselors, evaluators, adjustment specialists) and client advocates have with effects or outcomes of the program and services are different from those of administrators and program evaluators. While recognizing the need to have a common metric with which to evaluate the overall rehabilitation program, their concern is with how specific experiences provided to a client impact upon that client. Their perspective is clinically oriented, focusing on changing or adapting client's specific behaviors, attitudes, and skills so the client has characteristics more similar to those of nonclients in general. Their perspective, then, is not only with aggregate program effects, but with having some idea of how a particular client might be affected if a particular experience or sequence of experiences were provided that client. For instance, if Vocational Evaluation and/or adjustment services are purchased for this client, how will the client's self-esteem and vocational decision-making skills be affected?

These concerns of practitioners and advocates with respect to change in clients or effects of services on clients are well represented in the literature of rehabilitation and psychology. Theory, research and test and inventory construction, which reflect these concerns, appear to concentrate on development in three basic domains: (1) personal-social development; (2) vocational development; and (3) development of capacities to function independently in society.

In theory and research, the Personal-Social Domain encompasses fundamental psychological and social attributes of an individual. Essentially, the variables here refer to dimensions which help an individual to define themselves (their life-space, if you will) and their relationships with significant persons in their life. Among the dimensions that are often found included in this domain are those dealing with attitudes toward own disability, general self-esteem or self-concept, perceptions of locus of control, communications and social-interaction skills, and knowledge of personal needs, interests and values.

The Vocational Domain encompasses those skills and characteristics which are often thought to be necessary if a person is to obtain, maintain, or advance in an occupation or vocation. As with the dimensions in the Personal-Social domain, these relate to the person's life-space, but the specific life-space centering around work. While they include many "soft" dimensions, in that they deal with perceptions and attitudes, the "harder" dimensions relating to specific skills and attributes of vocation are also included here. Among the fundamental dimensions referred to in this domain are attitudes toward working; vocational decision-making skills; career planning; work habits and employment skills; awareness of needs, opportunities and resources to attain goals; effectiveness of relationships with co-workers and supervisors; and marketability of job or vocational skills.

The Independent Living Domain refers to capacities often thought to be necessary for an individual to be effectively integrated into the larger community and to be able to fully participate in its offerings and its responsibilities. Included in this domain are skills, behaviors and characteristics needed to be mobil and live with a reasonable degree of independence and stability. Emphasis in this domain is on actual functioning rather than on a predisposition to function. Actual physiological, psychosocial and economic mobility are particularly stressed in this domain.

As one examines the literature of vocational rehabilitation, one will find a number of studies which deal with the underlying issue of program and services effects on client development. Especially prominent and suggestive are those sponsored through the three Vocational Rehabilitation Research and Training Centers and several of the Rehabilitation Research Institutes. Among them, for instance, Tsent (1977) has conducted an extensive study of the effect of Evaluation services on client personal-social development, Chandler (1978) and Hein (1979) have examined some of the effects of Evaluation on personal-social and vocational development, Menz (1978a, 1978b) has examined the effect of Vocational Evaluation on the vocational development of clients, and Wright et al., (1977) have looked at the cumulative effects of a diagnostic and rehabilitation process on basic human needs.

Each of these studies represents important individual contributions to our knowledge as to what might take place as a result of Evaluation and Adjustment services and the overall rehabilitation program. But, individually and collectively, they do not provide answers to such questions as "How might Evaluation affect a client's ability to formualte alternative vocational plans?" or, "What kind of Evaluation is most likely to affect a client's ability to formulate realistic vocational plans?", or for that matter, "How might Evaluation and Adjustment affect the marketability of a client's job or vocational skills?" Each of these (and other such studies) appear to be marred in some telling fashion which collectively precludes them from providing definitive statements regarding effects. The studies generally are part of an evaluation of a particular example of one type of service; address the effects of a single type of service on one or two variables; have relatively small samples of a particular client group; are not replicated with other examples of that service or with other client groups; rarely pursue sustention of an observed effect through other services, which are subsequently provided as part of the clients' rehabilitation and the degree of effect reported is often inconsistent from one study to another employing the same measures of the dependent variable(s).

Studies, such as those above, suggest interesting possibilities as to what are some of the dimensions of client development which should be focused on in a systematic study of program and service effects. As a source for making any statement about how our programs affect clients, they appear to be remarkably flawed and fundamentally inadequate. These and other studies like them should be critically examined and their findings integrated to formulate a basic perspective of what we presently know about the effects of our programs and services. From such a critical review, a systematic study of a limited number of variables in each of the three domains, our knowledge about how our program and services are affecting the clients we serve might be enhanced. From the results of such research, we may have the body of data needed to then begin to define and allow us to select delivery approaches which will yield differential affects on clients.

As we review another segment of the literature in rehabilitation, one finds that the field seems to be resplendent with instruments and methods for the observation and/or measurement of almost all types of behaviors which clients could possibly emit and which may be important to employemnt. These include the many commercial evaluation systems (see Dunn, 1971; Botterbusch, 1976; Botterbusch, 1977), and the 157 behavior checklists collected by Walls, Werner, and Bacon (1976) from published and fugitive sources, Crutela and Upper's (1973) behavioral coding system with its 371 discrete behaviors, the numerous cognitive and noncognitive tests and measures which are in common use in rehabilitation treatment programs, and the many measures and indicators used to estimate the benefits of rehabilitation (Reagles, 1973; Esser, 1976; Westerhide and Lenhart, 1975; Bennett and Weisinger, 1974; Harrison and Riggs, 1977). A sampling of the tests and inventories most prominently cited for each of the three key domains are displayed in Table 1.

Reliable and valid measurement methods for assessing specific behaviors, behavioral constructs, or skills and knowledges of clients are needed to provide useful information to decision-makers and clients. They have specific utilities and some promising studies are already underway in vocational rehabilitation to develop reliable measures (e.g., see: West Virginia's Rehabilitation Research and Training Center, 1977, pp. 223-245; Arkansas Rehabilitation Research and Training Center, 1977, pp. 191-201; Kruehl, Coker, & Dunn, 1976). The literature also points to prominent efforts of other researchers and institutions to develop traditional and novel diagnostic measures of client capacity and impairment (e.g., Crew & Athelstan, 1978; Crumpton, Cassell, Freeman & Sawyer, n.d.; Halpern, Raffield, Irvin & Link, 1975; Harrison, 1978; Indices Inc., 1978a, 1978b; Texas Tech, 1977; Walls and Werner, 1978; Rehabilitation Indicators, 1980). Such measures are particularly of need if we are to know how the program and services impact upon disabled persons and which of them are or are not effective.

The same review of the literature also points out that there is a real dearth of reliable methods which the counselor and service provider can both use in planning and communicating expectations and service outcomes. Especially lacking are tools for use in planning with the individual client. Totally missing are any which focus on those three capacity domains of clients (the personal, social, vocational, and independent living) which most practitioners and advocates are concerned with and which could interrelate findings from the multitude of different tests and measures that are used in research and practice.

Practitioners emphasize that while they attempt to provide the best possible service in their individual roles, the link between the counselor and the services is most subject to the communications skills of each individual in the system, the idosyncratics of reporting formats, and numerous scrap-paper planning tools. The counselor's intents or expectations in client referral to services should be systematically derived and accurately communicated to the service provider. The service provider, based upon the counselor's expectancies and his own professional role, should also systematically and reliably plan his delivery of services to clients. Subsequently, what the service proivdes finds out or

Table 1

A Sample of Tests and Inventories Available for Assessment in the Three Domains

Personal-Social Domain

Tennessee Self-Concept Scale	Fitts, 1964
Self-Esteem Inventory	Coopersmith, 1967
Miskimins Self-Goal-Other Discipline Scale	Miskimins, 1971
California Psychological Inventory	Gough, 1956
Self-Perception Inventory	Soares and Soares, 1965
Social Self-Esteem	Ziller, 1969
Study of Values	Allport, Vernon, Lindzey, 1960
Survey of Inter-personal Values	Gordon, 1960
Internal-External Locus of Control Scale	Rotter, 1966
Alienation Scale	Egeland, et al, 1970
Crowne-Marlowe Social Desireability Scale	Rotter & Tinkelman, 1970
Human Services Scale	Reigels, et al., 1971

Vocational Domain

Job Satisfaction Index	Smith, et al., 1963
Index of Job Satisfaction	Kornhauser, 1965
Attitude Toward the Supervisor	Nagle, 1953; Schmidt et al, 1957
Job Motivation Index	Patchen, 1965
Meaning of Work	Tausky, 1968
Occupational Values Scales	Kilpatrick, et al., 1964
Occupational Values Scales	Rosenburg, 1957
Job Analysis and Interest Measure	Edel and Tiflin, 1965
Facets of Job Evaluation	Guttman, 1965
Job Interests List	Jones and Krumboltz, 1970
Survey of Career Plans and Experiences	Buck, 1970
Pre-Employment Questionnaire	Travaglio, 1970
Haller Occupational Aspiration Scale	Tseng & Carter, 1970
Ability Self-Rating Scale	Tseng, 1970
Career Maturity Inventory-Attitude Scale	Crites, 1965
Career Maturity Inventory-Competency Scale	Crites, 1965
Minnesota Importance Questionnaire	Lofquist, 1967
Social and Prevocational Information Battery	Irvin, et al., 1979
Reading for Vocational Interest Inventory	Becker, 1975

Independent Living Domain

Leisure Activities Questionnaire	Bishop, 1970
Adaptive Behavior Scale	Lambert, et al., 1973
Functional Limitations Scale	Knoxville, 1978
Rehabilitation Indicative Scales	Tufts, 1978
Service Outcome Measurement	Oklahoma, 1975
Activities of Daily Living	
Pulses Profile	
Barthel Index	

causes to happen to the client, should be validly communicated to the counselor. Yet, it is at these planning and communication points in the process that variability is greatest, when, in fact, it should be most minimized. It is at this point in the process that it is most likely that there is the greatest potential for insuring that the program will be consistently delivered to clients consistent with their needs.

Valid planning and communication tools are needed which can effectively reduce this variability and which may be mutually and reliably used by counselors, evaluators, and adjustment specialists for joint planning and communication. A referral inventory should be developed which will meet the communications and planning needs of rehabilitation counselors and service providers. It should be conceived as a tool to supplement existing assessment devices used by rehabilitation personnel in diagnosis, assessment and treatment of clients. Further, it should be conceived as a tool for summarizing and documenting the knowledge each has or acquires about the client's functional capacities at critical points in the client's rehabilitation and for guiding efforts to provide effective rehabilitation to the client. Finally, it should serve three key purposes in rehabilitation planning and delivery:

1. Provide a capsule description of a client's functioning on vocationally relevant behavioral dimensions at critical points in a client's rehabilitation.

2. Provide a summary of the pertinent data on a client's functioning that is essential for effective and efficient planning of diagnostic and assessment services and of Adjustment services.

3. Procide counselors and service providers with a common basis for communicating the needs, intents, and results of services supplied to the client.

Present research efforts under this project are leading to the development of a planning and communication tool which meets the above criteria. The content of the Client Referral Inventory (CRI) will cover the Personal-Social, Vocational, and Independent Living Domains. The CRI should help to alleviate one general concerns which plague rehabilitation: Consistently insuring that the program and services provided to clients are commensurate with their needs. Completing the development of the CRI remains the fundamental objective of the project.

As the project moved through development and refinement of the content of the CRI, the lack of resolution of the collateral issue of how vocational rehabilitation should affect clients, became increaslingly apparent. There is an evident major gap in our knowledge of how and to what degree vocational rehabilitation programs affect client behaviors in the very same three capacity domains (personal-social, vocational, independent living) which the CRI is to summarize. Not only is there limited research on those effects, the research appears to be wrought with methodological flaws and underlying measurement problems. Well-designed research needs to be conducted if we are to know what are the effects on rehabilitation in each of those domains. Project activities will, therefore, also be directed at completing a critical analysis of research on the effects of Evaluation and Adjustment services and a pilot study upon which proposals for discrete, well-designed research on the effects of those services will be developed.

7. Objectives

   1. To refine the content and utility of the CRI for planning and communicating the intents and outcomes of services between counselors, evaluators and adjustment specialists.

   2. To synthesize research evidence with respect to the effects of Evaluation and Adjustment services on client development in the three domains of client development covered in the CRI.

   3. To identify existing measures for assessing development in each domain for use in the design of services effects studies.

8. Methodology

Subjects

Both practitioners and clients are subjects in the project. Practitioners are involved in development of the CRI. Clients are involved in pilot research entailed in synthesizing research evidence and design of specific research on the effects of rehabilitation.

Approximately 15 counselors, educators, evaluators and adjustment specialists are invovled in development and validation of the CRI. Approximately 60 Vocational Evaluation clients and 30 vocational evaluators from the Vocational Development Center will participate in pilot research on the effects of Vocational Evaluation.

Instruments

The principal instrument is the Client Referral Inventory (CRI). Respective to their roles as purchaser or service provider, counselors, evaluators, and adjustment specialists provide three types of responses to the statements contained in the CRI: a summative judgment of capability; a focused analysis of capability; and a decision regarding service needs. Development of this instrument is the major activity of the project (see Appendix for sample content and structure of the CRI).

As part of the pilot research on the effects of Vocational Evaluation and Adjustment, other direct measures of client behavior will be used. Presently, the Attitude Scale of the Career Maturity Inventory (Crites, 1978) and a modified version of Rotter's Internal-External Locus of Control (1975) are used in a pre-post study with Evaluation clients. The Attitude Inventory is composed of 5 factors relative to attitude toward work. Previous research (Menz, 1978a, 1978b; Hein, 1979) yielded mixed but promising results with different samples of Evaluation clients. Rotter's I-E is a generalized measure where one perceives the source of control over one's life as internal or in the control of events outside oneself. The modified form of it includes the very general items from the original instrument and parallel items which have definite vocational referents.

Procedures

Specific procedures are followed for each of the three objectives. The procedures will successively yield the CRI, one or more state-of-the-art papers on rehabilitation and service effects, and the fundamental design of the next research project in the measurement of service effects on clients.

Objective 1. Development of the CRI. The idea for the CRI was originially conceived by Menz and Dunn (1976). Three principal sources are drawn upon for its content. The initial basis for its content was through a search of the literature conducted by Menz and Dunn (1974) to identify non-medical dimensions of client behavior along which the effects of Vocational Evaluation and Adjustment might be demonstrated with clients. The second, and equally important, source for content was the ideas and concerns which practitioners expressed. Their ideas and concerns tended to be specific to types of behaviors upon which their services focused. The underlying "themes" of most of these related to social, personal, and vocational behaviors of clients. A basic and continuing premise in developing the CRI is to give primary attention to incorporating statements of capability which comprehensively represent the focuses and efforts of these two services.

The third resource was the most prominent efforts of other researchers and institutions to develop traditional and novel diagnostic measures of client capacity and impairment (e.g., Crew & Athelstan, 1978; Crumpton, Cassell, Freeman & Sawyer, n.d.; Halpern, Raffield, Irvin & Link, 1975; Harrison, 1978; Indices Inc., 1978a, 1978b; Texas Tech, 1977; Walls and Werner, 1978; Rehabilitation Indicators, 1980). These recent efforts were reviewed to insure that the scope of the CRI covers relevant areas of client capability and impairment which are important in the planning and delivery of rehabilitation to clients. They were also reviewed so the final version of the CRI will have a high relationship to instrumentation designed to more precisely measure the specific capacities and impairments of clients which the Inventory summarizes.

Once content is settled upon for all three domains of the CRI (personal-social vocational, independent living) its content validity will be determined. A sample of approximately 15 academic and practicing evaluators, adjustment specialists, and rehabilitation counselors will review the content and the instructions for the CRI. Their review of the content will concentrate on whether the statements are sufficiently inclusive, are clearly stated, and are commonly understood by counselors, evalautors, and adjustment specialists and insure non-overlap of statements and appropriate assignment of statements to the three domains. Additional statements will then be sought, as necessary, to insure that the CRI is representative of pertinent information which might be obtained on client's behaviors or which would be affected in the two services. Poorly phrased statements will be revised as needed.

That review process, essentially, will be undertaken to assure that content of the CRI is valid prior to formal research, demonstration of utilization in the field takes place with it. Item analysis procedures will also be undertaken to determine statements for which the evaluator, counselor, and/or adjustment specialist are in greatest disagreement. Items which have the highest rate of disagreement will be revised, replaced, or deleted as needed. The purpose of the CRI and instructional procedures for using the CRI will also be reviewed by the 15 practitioners.

At the conclusion of these activities, a form of the CRI will be available. It will be documented, including instructions, in a report tentatively entitled "Use of the Client Referral Inventory for Planning and COmmunication of Rehabilitation Services." In this manner, the CRI will be made available to the field for research and demonstration and limited utilization purposes.

Objectives 2 and 3. Synthesis, Test Identification, and Design of Research. Three kinds of activities, which are interrelated, take place to accomplish these two objectives. One involves a critical evaluation of the literature; the second involves identifying promising measures, tests, or proceudres for assessing change along the dimensions summarized by the CRI; the third involves a pilot study with selected measurement procedures for use in designing discrete research proposals for discrete research.

Preparation of state-of-the-science papers on research and measurement of the effects of rehabilitation and evaluation and adjustment services on clients are sought as the products of the first activities. These issue analyses will successively (1) provide a comprehensive review of current rehabilitation research on this topic; (2) identify a collection of measures available and used to assess development in the personal-social, the vocational and the independent living domains; (3) based on research evidence and theory, identify the most relevant and/or promising dimensions within each domain upon which to focus field research efforts; and (4) identify alternative measures or indicators which can be used with different client populations to assess development in each domain.

The review of research will critically examine the importance of effects on or changes in client development reported in different studies; the consistency of findings across studies respective to absolute change, relative level of development and stability of effects (i.e., sustention of effect); and the methodological limitations of the research (e.g., sampling, design, and analysis). One or more state-of-the-art papers may be products and be a contribution to the professional literature of vocational rehabilitation. A key use of those though will be in selection of existing measures which can be used to assess client development and in designing concrete field research on these effects.

To prepare this resource, current and past research conducted under the auspices of the Research and Training Centers, the Rehabilitation Research Institutes, the Rehabilitation Indicators Project, a major masters and doctoral level rehabilitation (evaluation, adjustment and counseling) program, state vocational rehabilitation programs, and facility programs evaluation efforts are particularly concentrated upon. Secondarily, pertinent research in related disciplines of education, psychology and social work are also tapped to identify gaps or areas of potential effects not presently addressed by research literature in rehabilitation. While emphasis in this paper will be on method and research with different measures, primary theoretical positions upon which research has yet to be conducted will not be ignored. To identify potential research for inclusion in the review, full use will be made of the literature available through the Materials Development Center, NAIRIC, ERIC, and Lockheed, as well as the research and progress reports from federally sponsored projects, the Research Directory, other abstracting sources, and the network of researchers at the various centers.

During the course of selecting, reviewing, and evaluating relevant research in vocational rehabilitation, tests, inventories, rating scales and procedures used to assess effect will also be concentrated upon. As these measures or procedures are identified, they will be referenced to the personal-social, vocational, and independent living capacities contained in the CRI. This will then result in identifying relevant sets of measures for use in fundamental field research on the individual and cummulative effects of Evaluation, Adjustment, and rehabilitation on clients. Some of the measures will also be focused upon in specific pilot research.

A pilot study of the effects of the services on client behavior will be undertaken as the last set of activities. This will focus on measuring behaviors which the literature of the field suggest as promising. Variables which appear in the literature or philosophy of the field as possibly confounding the expected effects of services are also investigated in this type of study. It will be a prototype design and attempt to overcome many of the most prominent flaws in previous research. Future research proposals will be based upon them.

The study being initiated as part of the coming year's activities (Herbert, 1981), looks at change and relationships of one confounding variable to change. The effects of Vocational Evaluation on client's perceived control over the vocational aspects of their lives and specific components of their attitude toward work are examined. A modified version of Rotter's Internal-External Locus of Control and Crite's Attitude Inventory are used in a time-series design. Intensified client involvement is experimentally introduced halfway through this study. A structured program allows evaluators to aggressively elicit greater participation from their clients. The relationships between changes and the extent to which the client is an active participant in the Evaluation process are also investigated as a competing explanation for identified pre-post changes. The findings of this study and similar studies will be reported in separate research reports.

Timelines

February, 1981	Initiate study of Evaluation effects.
April, 1981	Complete construction of CRI.
May, 1981	Conduct content review of CRI. Complete first critical analysis paper.
June, 1981	Analyze data from study of Evaluation effects.
July, 1981	Complete report of study.
August, 1981	Complete report on CRI.

November, 1981	Initiate subsequent critical analysis of research and identification of measures.
January, 1982	Initiate and conduct additional pilot studies.
March, 1982	Complete remaining analyses of literature and pilot studies.
May, 1982	Design and propose subsequent research and complete project report.

9. Relevance of Project

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research i Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

From Figure 1, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, and R-50).

The proposed study falls under the Rehabilitation Resource Development and Management line. A CRI is conceived as a tool which purchasers of services (the VR counselor) could use to plan and communicate their referral expectations and which the service provider (the evaluator and adjustment specialist) could use to plan, devise, and deliver services to the client. In brief, the study will provide a method for facilitating effective utilization of services to counselors, evaluators and adjustment specialists.

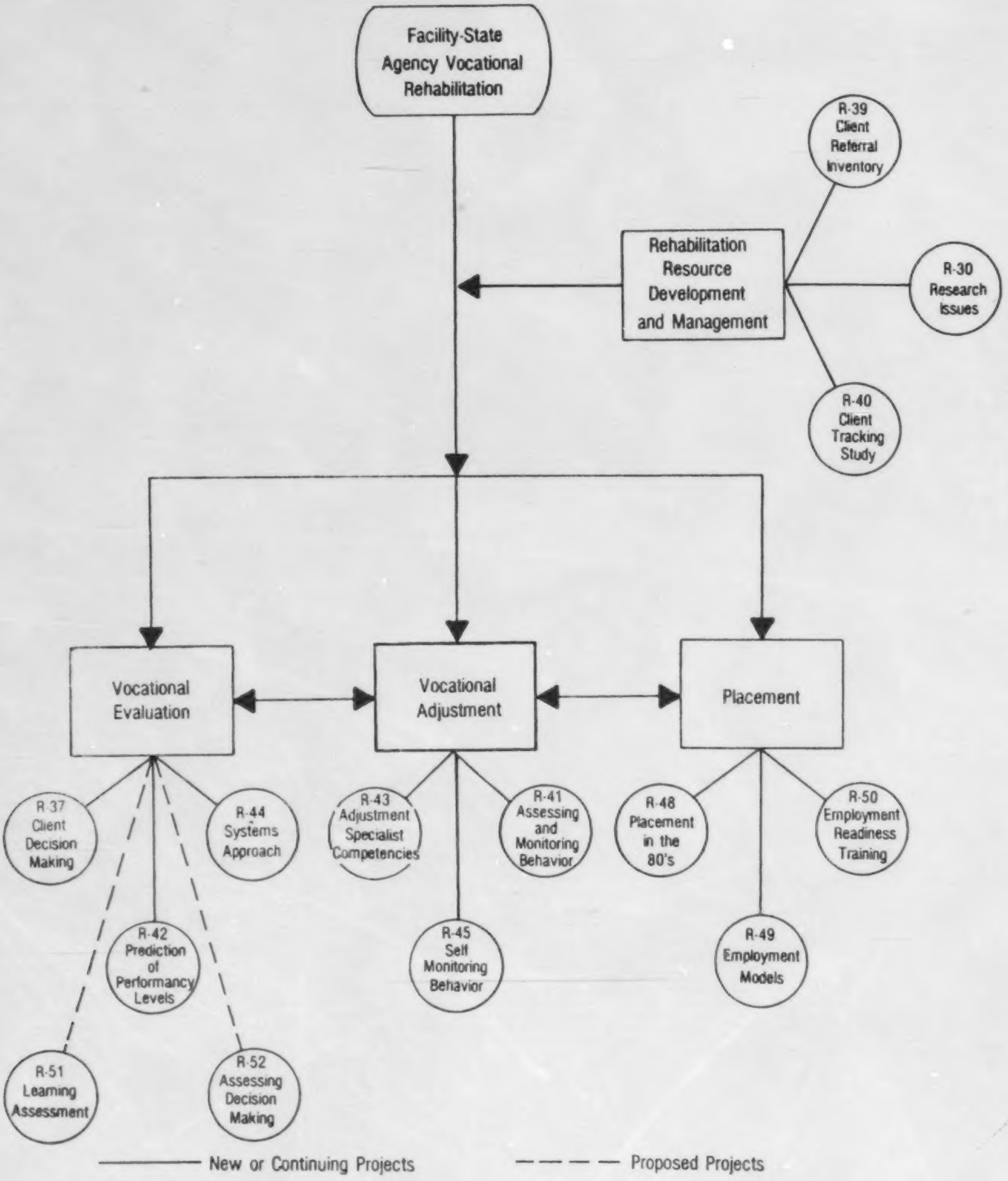
Facility-State Agency Vocational Rehabilitation
R-39 Client Referral Inventory
Rehabilitation Resource Development and Management
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-42 Prediction of Performancy Levels
R-45 Self Monitoring Behavior
R-49 Employment Models
R-51 Learning Assessment
R-52 Assessing Decision Making
New or Continuing Projects
Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

Also, reliable data on such issues as who is receiving Evaluation and Adjustment services; for what specific reasons clients are referred to these services by counselors; to what client behaviors do these services attend; and what are the outcomes and effects on clients and the rehabilitation processes which occur as a result of these services are fundamental for efficient planning of relevant programmatic research in the Center's core area. The CRI is then also expected to provide a means for counselors and service providers to document planning and service delivery to clients and is expected to be a prime source through which this needed data will be gathered for Center planning and research projects.

To Rehabilitation

How to effectively utilize Evaluation and Adjustment services is a continuing problem for the counselor, the evaluator, and the adjustment specialist. While a fair amount of precision can be ascribed to the techniques which each employ in their particular roles with clients, tools do not exist with demonstrated validity for linking the purchasers and the providers of services into an effective netowrk. The CRI is proposed as one device for accomplishing this and it is to this end the project has been designed.

10. Client Characteristics

Basic demographics on clients involved in the pilot studies will be reported. No dominant disability group is focused upon. All participants are volunteers. Their participation was sought under informed consent procedures established by the Center and the University Committee on Protection of Human Rights.

11. Current Year's Activities

Activities in previous years have been given to developing the Concept and content of the CRI. Reviews of the literature, input from practitioners and working conferences with other researchers engaged in the general area of assessment of functional capacities impairments have been the primary activities and sources for developing a CRI.

The substance of those activities have been incorporated into our review and elaboration of the problems upon which the project is directed, as presented above. How those input sources have affected the content and structure of the CRI can be seen in the procedures section of the project's methodology and in Appendix A. Finally, how those inputs and activities have formed the directions of the project can be seen in its refined objectives, the corresponding methodology, and the following summary of activities undertaken this year.

This project continues to encumber fewer resources than do the other data intense projects. Progress continues to be made, though, and attainment of its original goal is to be expected. As is seen in the elaboration of the problem upon which the project is based, very specific objectives are being pursued.

A collateral project (R-47, Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evlauation and Adjustment Clients) was proposed last year. That proposed project came about as a result of the developmental work previously accomplished to develop the CRI. It was proposed in expectation of increased funds to expand research efforts in the Center's core areas. As proposed, it was highly ambitious, dealing comprehensively with the fundamental problem of effects of rehabilitation on clients. Increased funding did not come about to expand research in our present core areas. Yet, the project received high marks in both peer review and as one wherein there was a high need. As proposed, though, that project was designed as an integral piece of programmatic research.

Because this project and the proposed one so closely relate to each other, the objectives and potential products of each were reappraised internally. From the original project, development of a CRI with utility for the field was seen as most important and retained as a primary goal. From the proposed project, present resources could not allow implementation of its integrated research design at this point in time. Its objectives of syntheses and critical evaluation of existing research could offer the field valuable state-of-the-art science documents. Pilot research, too, could provide a basis for proposing a series of studies which would ultimately result in achieving the original research goal of that proposal. From those, too, specific programmatic studies could be most appropriately designed for implementation.

This year's activities, therefore, have focused on, (1) initiating the syntheses and evaluations of research; (2) completing a potentially usable version of the CRI; and (3) designing new research studies on the effects of services. New progress has been most productive in this later respect, as one can see below.

Synthesis and Evaluation of Research. A controversy has raged in the rehabilitation field as to whether Vocational Evaluation is a therapeutic process or simply a diagnostic process. One body of literature has developed which speaks to a variety of philosophies of Vocational Evaluation and a second body of literature has developed attempting, in one way or another, to demonstrate the therapeutic effects of Vocational Evaluation.

As part of this project, Herbert (1980) has attempted to bring those bodies of thought and research together and derived a state-of-the-art position of how Vocational Evaluation affects the area of client behavior wherein clinical proponents most often anticipate effects: client self-concept. A miasma of thought, action, and inuendo became more apparent than not. The most accurate conclusion that Herbert could reach was "who knows?"

Brief forays into the research on the effects of that process in other areas of the client's behavior also suggest that the situation is not topically limited. The multitude of faults and inadequacies of aprogrammatic research on the effects of a process which lacks a credible or clear definition are apparent in the body research. In the absence of programmatic research, it is argued, there is a very low likelihood that existing research can either lead to the development of a substantive theory about a rehabilitation process or, even, eventually provide a fundamental knowledge about how that rehabilitation process effects events or people.

The expanded version of that issue analysis is now being completed for distribution as a research publication. The definition, measurement, design, and expectation problems posed through the synthesized research are documented. Some strident suggestions for clarifying and improving the general form and substance of future research on that or other rehabilitative processes are also given.

That analysis of issues emphasizes the continued absence and need for well designed programmatic research on the effects of the services. Particularly needed are studies which measure sets of behavioral traits, rather than focus on a singular trait. Needed are designs which entertain alternative and well defined examples of the processes. Needed are designs which isolate, if not control for, competing explanations of the process effects. Needed are studies which estimate the singular and cummulative effects of services received sequentially or of services and events occurring conjunctively. Needed are studies which progressively sample the stability and sustention of effects among different target groups, at different stages in their rehabilitation, and at different times in the evolution of the rehabilitation program. Needed are studies which have only the purpose of replication. And, needed are studies from which are developed those measurement procedures (tests, or whatever) that are critically needed to regularly and economically assess (to monitor) client development in the most fundamental cognitive and non-cognitive dimensions of human behavior.

Development of the CRI. Such findings as these have subsequently lead to considering the CRI in a new light. It will be developed at this point in time and may serve its three basic purposes in unifying delivery of vocational rehabilitation. As developed, it may also provide a referencing system for relating and classifying the functional dimensions along which service effects are expected and selecting measures for subsequent studies of the effects of rehabilitation. For the three capacity domains the CRI covers, dimensions included are those which service and rehabilitation personnel most often expect or perceive client development to take place. Such a perspective, then, provides the format for identifying measures and formulating hypotheses to be pursued in adequately designed studies of effect. The CRI's present form, then, may be an intermediate one and subject to redesign as better research on those process-effects are concluded.

Design of New Research. The findings in the evaluation of the literature also lead to reaffirming the needs to design a series of studies which (1) will yield substantial knowledge about what behaviors are and are not being affected in the program and the services, and (2) will yield more effective measures of those same behaviors. In keeping with this and the criticisms leveled at existing research, pilot research is now being engaged in to examine the combined and distinct effects which important client variables (involvement), process (a well-defined control form of Vocational Evaluation), and test format (items with generalized and vocationally specific referents) have on changes in client vocational attitude and sense of control (dependent variables, vocationally relevant as effects of a therapeutic evaluation process).

One such study is being initiated as part of the coming year's activities (Herbert, 1981). Change and relationships of one confounding variable are examined in the study. The effect of Vocational Evaluation on client's perceived control over the vocational aspects of their lives and specific components of their attitude toward work are examined. A modified version of Rotter's Internal-External Locus of Control and Crite's Attitude Inventory are used in a time-series design. Intensified client involvement is experimentally introduced halfway through the study. A structured program allows evaluators to aggressively elicit greater participation from their clients. The relationships between changes and extent to which the client is an active participant in the Evaluation process are also investigated as a competing explanation for identified pre-post changes. The findings of this study and similar studies will be reported in separate research reports. The findings, format, and methods will also be used to formulate specific research proposals in the studies of service effects.

12. Dissemination of Findings

Three means of dissemination are anticipated: Research reports and journals, training programs, and user-packages. Research reports, published by the Center, and articles in journals, such as the Rehabilitation Bulletin and the Journal of Counseling Psychology, will present the details and summaries of our reliability and validity studies with the CRI. The second method of dissemination will be through our training programs. The Center's training programs are integrally tied to the Center's research and function as our applications branch. It is one of the most significant methods for distribution of materials and for the training of counselors and rehabilitation service providers in effective planning and delivery of Evaluation and Adjustment services to clients. The results of this study will be integrated into current and future training programs. The third method of dissemination rests upon the quality of the final version of the CRI. If the findings warrent, manuals for counselors', evaluators', and adjustment specialists' use of the CRI with individuals and groups of clients will be packaged and made available nationally to the field.

13. Utilization of Findings

If the CRI is found valid for the purposes it is intended, then it can be disseminated as an effective tool for referral planning and delivery of services to clients. Counselors can use it for identifying informational needs in eligibility determination, for establishing priorities among their referral questions, and in monitoring the progress toward employability which occurs as the client proceeds through the services. The Evaluation and Adjustment specialists should be more responsive to the expectation and priorities of the counselor's referral, more economically be able to establish priorities in his service, directly plan and monitor delivery of his service, and more concisely and accurately communicate his answers to the counselor's referral questions.

14. Policy, Program and Practice Changes

The primary impact of this study is expected to be on how rehabilitation is delivered to clients by counselors and service providers. As counselors, evaluators, and adjustment specialists are better equipped and trained to use systematic methods for planning referrals to services and in planning and delivery of those services, several effects may be realized in the rehabilitation delivery system.

First, it can be expected that the reasons for initial referral by counselors will be more concise/prescriptive and better articulated to service providers. Secondly, as counselors are better equipped to articulate the needs which they have in their referrals, an economy may be realized in the shorter length and lower costs incurred in diagnostic and treatment programs and a new range of alternatives revealed to obtain the results of more costly services. Thirdly, as tools, such as the CRI, come into wider use, it can be expected that the sequencing of services which are provided toward the end of rehabilitation of the client will be more finely organized, specifically directed, and as the rehabilitation of the client takes place in a more expedient manner opportunities for rehabilitation services will be made available to greater numbers and types of disabled persons. Fourthly, as referrals are made more specific, the programs of services devised by evaluators and adjustment specialists can be more economically planned, and will allow greater opportunity to devise a variety of delivery methods particular to specific classifications of client functional capability. Finally, a broader range of programming possibilities than are currently being provided in today's service programs will be available. The depths and full potentials of the services can be realized as fixed-length programs become replaced and the contributions which these services can make are given to full exploration.

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APPENDIX A

CLIENT REFERRAL INVENTORY

(Sample Statements)

EXPERIMENTAL
Not for General Distribution

Research and Training Center 22
Stout Vocational Rehabilitation Institute
University of Wisconsin - Stout
Menomonie, Wisconsin 54751

DIMENSIONS OF INDEPENDENT LIVING	SCREENING			
	ROUGH	FINE		
		Qual	Pred	Pcnd
Reading, writing and computing skills	D N A	D N A	D N A	D N A
Management of personal finances	D N A	D N A	D N A	D N A
Maintainance of personal physical living environment	D N A	D N A	D N A	D N A
Use of needed prosthetics, compensatory devices, and controlling drugs and medications	D N A	D N A	D N A	D N A
Knowledge and use of outlets for non-vocational interests, needs and valu values	D N A	D N A	D N A	D N A
Control of own health, weight and diet	D N A	D N A	D N A	D N A
Use of alcohol and tobacco	D N A	D N A	D N A	D N A
Knowledge and use of social, legal, medical and recreational resources	D N A	D N A	D N A	D N A
Solicitation of assistance with problems which cannot be solved independently	D N A	D N A	D N A	D N A
Relationships with significant members of opposite sex	D N A	D N A	D N A	D N A
Relationships with significant members of same sex	D N A	D N A	D N A	D N A
Use of upper and lower extremeties	D N A	D N A	D N A	D N A
Condition of cardio-vascular system	D N A	D N A	D N A	D N A

SERVICES NEEDED					NOTES COMMENTS OR DECISIONS
TYPE	SPECIFIC FOCUS				
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	
Eval Rehb None	Phy Phy Rchk	Psyh Trng Plac	Soc Padj None	Voc Vadj	

RESEARCH PROJECT REPORT

Project No. R-40

1. Title Facility Services --- A Tracking System

2. Project Status (Check):

Proposed ___ New ___ Continuing x Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 7/79 mo/yr Expected Completion: 7/83 mo/yr Completed: ______ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Fredrick E. Menz, Ph.D.	Measurement & Assessment	25	35
Thomas Blakemore, M.A.	Psychology	25	
Charles Coker, Ph.D.	Psychology	5	5
Vacancy	Computer Specialist	10	20
Clerical		10	10

5. Financial Data:

Estimated Cost From Beginning to End of Project: 199, 924

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	21,043	22,823	2,844	2,437			23,887	25,260
Supplies and Other Expenses	4,975	3,403					4,975	3,403
Travel	1,875	1,504					1,875	1,504
Equipment								
Indirect Costs Allowed by DE	4,184	4,160	8,712	7,597			12,896	11,757
Total	32,077	31,890	11,566	10,034			43,633	41,926
Percent	73	76	27	24			100	100

*For report year and continuation year

6. Statement of the Problem

Purpose

Since the initiation of rehabilitation programs in the 1920's, changes have occurred in terms of who is eligible for rehabilitation services. As changes have occurred in eligibility criteria, corresponding changes have occurred in the structure of rehabilitation programs and the classes of services which need to be provided to new types of clients entering the system. State rehabilitation agencies have had the responsibility for determining whether current services meet the needs of these clients and, if not, what services would. To make these decisons, state agencies need effective methods for evaluating the operation of their systems. Specifically, they and the service providers need to know what types of clients they are dealing with, what services these clients receive, and how effective are those services.

The present research is directed at developing methodologies which will assist state agencies and service planners to obtain such information on a continuing basis. Under this project, demographic, service, and fiscal data on clients receiving facility services will be integrated, longitudinal studies of types and patterns of service delivery and rehabilitation outcome will be conducted, and the utility and design for a responsive data retrieval system for longitudinal studies will be explored.

The project uses the data systems developed by the Wisconsin Vocational Rehabilitation Agency to collect data on clients receiving facility services in pursuing the following objectives:

1. To obtain a usable and accurate picture of how rehabilitation facility services in Wisconsin are delivered to clients.
2. To obtain a usable and accurate picture of how the rehabilitation system in Wisconsin is delivered to clients who receive Vocational Evaluation and Work Adjustment services as part of their rehabilitation program.
3. To determine the utility and design characteristics of a client tracking and data retrieval system which will allow the state agency and service delivery personnel to have accurate information for use in their regular planning and redevelopment cycles.

Introduction

The field of rehabilitation is in an era of organizational growth and changing patterns of human services. These changes are partially a result of ongoing changes in policy at the national and state level through passage of legislation such as PL92-112 in 1973 and the 1978 Amendments to this act. Those acts extended services which were initially granted to the WWI Veteran who was physically disabled to the mentally, emotionally, and culturally disabled, and to the most severely disabeld. Even more recently, legislation has been passed to provide independent living services to all disabled persons as part of vocational rehabilitation.

The rehabilitation system has historically identified the disability groups which would be accepted in the program more on the basis of who is mandated to be served rather than on the basis of whom the system can effectively serve. With the number of "target" groups becoming more diverse, a tremendous gap in rehabilitation exists today between what is known about the rehabilitation client and whether services provided by rehabilitation professionals meet the needs of everchanging disabled populations.

Discussions with rehabilitation leaders, practitioners, and administrators responsible for planning the direction of the vocational rehabilitation programs confirms that we do not have a grasp of the vocational rehabilitation client and his/her rehabilitative process. Such a grasp is needed by both personnel in the state who are responsible for overall direction of the client's rehabilitation and personnel responsible for planning and providing key services (i.e., vocational evaluation and adjustment facilities). If growth of the system or its services is to be effective, planned growth needs to occur on the basis of who is able to be effectively served. In turn, planned redevelopment needs to be consistent with what the program knows about targeted groups of clients who are first differentiated from other client groups in terms of how the program or services effect their rehabilitation and before being based on other practical considerations.

There are four conditions necessary for effective planning of a system: (1) Knowledge of the system's past and present, (2) Knowledge of the system's resources, (3) Knowledge of the system's delivery or actual process (i.e., what is happening to clients), and (4) Knowledge of the system's future needs. Of the four, rehabilitation can respond well to the first two conditions of effective planning, but is only partially knowledgeable about the third and fourth. Numerous statistical reports attempt to identify the vocational rehabilitation client on the basis of a series of tabulations of one characteristic of clients and one type of service or service outcome (e.g., disability by type of service, referral source by rehabilitation outcome). Much of the analyses of data provided for planning are simple cross-sections of the data available in the state's data systems. Logical links between these descriptions are then based upon assumptions about the structure of the program. Thus, the actual delivery process is inferred from what the structure is assumed or originally designed to be, rather than from an appraisal of whether the system is functioning as designed to serve the individual client.

Data which planners rely on to formulate decisions about client services are those client, fiscal and service data contained in the state agencies' standard data systems. These data systems have served the state agencies and facilities very well for years. But, faced with increasing accountability to legislatures and clientele and increased involvement of facilities, these data systems should be reappraised as to how adequately they meet planning needs.

More complex analyses or alternative methods for accessing these data may allow planners to determine the actual structure of the system and the simultaneous relationships which client and program characteristics have on the operation of the state rehabilitation system. The needed analyses should take a client-by-client, longitudinal perspective of the data, making neither assumptions about program structure nor about how the process is actually delivered to clients. Given selected criteria (e.g., outcome recommendation of a source, or rehabilitation closure), what client characteristics, service patterns, and resource use patterns interact to optimize or minimize that criteria? Such analyses, in effect, may eliminate the short and long-range planning based upon assumptions about how the systems are supposed to work and allow, instead, the program and policy decisions to be based upon how it really does or does not function.

A review of the data forwarded to central offices (i.e., fiscal, client, service, and follow-up data) of the state rehabilitation programs, would suggest that those data may not completely provide the information that is needed for responsive planning in the state-facility network. It may be that current client information needs to be supplemented with more specific information. A retrieval system may need to be developed, in cooperation with agency and facility personnel, which includes data reported by the counselor in the client's case file, but is retrievable only through close scrutiny of the case file. Before a retrieval system would be proposed to systematically and continuously secure the data (as the client is receiving rehabilitation) a more formal appraisal of the potential of the state agency's regular information systems needs to be undertaken. Such an appraisal should also lead to a better grasp of to whom, how, and how effectively rehabilitation is delivered.

The need for a better grasp of how the program operates is clearly seen by planners and administrators in the Wisconsin agency. In that state agency, a Facility Program Termination Report has been introduced to obtain a better understanding of how facility services (evaluation, adjustment, training, and placement) impact on client rehabilitation. It may be that such a reporting format can provide the needed adjunct to the standard agency data systems for planning or for tracking individuals and groups of clients through rehabilitation. At this point, the utility of the Report and an effective integration of it into the data systems of the state program has not been accomplished.

Research centers which focus their resources on doing needed research to improve service processes (Vocational Evaluation and Adjustment) face the same problems and needs for establishing priorities as does the state agency. Accurate knowledge of how services are to serve what target groups with what effect within the general sturcture of the rehabilitation program is needed if reasonable priorities are to be established among research projects competing for limited resources. Such knowledge can only come from timely/periodic, cross-sectional and longitudinal studies of the delivery of the rehabilitation and longitudinal studies which seek shifts in populations, service utilization patterns, and levels of effectiveness. At present, the most consistent source of data with which to conduct such studies in support of the Center's process for establishing research priorities are those data maintained by the state agency. Whether these data can be used as a system for tracking groups of clients through rehabilitation (and in particular rehabilitation facilities) or be the foundation of a supplementing tracking system for research purposes is also unknown.

In summary, then, planning and redevelopment of the rehabilitation program seems to be based upon assumptions about how the program is to operate with certain "target" groups. Changing targets and increasing demands to make the process more efficient are calling into question whether planning of programs or of research can continue to be based upon such assumptions. The need to streamline and improve processes and the need to know what specific services contribute to client rehabilitation has led at least one agency to conclude that its present data systems are not adequate for systematically tracking and monitoring service effects and the suspicion that those data systems may not be adequate for effective planning in the coming decade. A new or supplemental data system which effectively tracks clients (or samples of clients) through the rehabilitation process and provides the additional needed information about who and how the system functions with target groups may be needed.

This project is based upon mutual needs of the state agency and facility program planners and the Center for timely and accurate information and the need to develop improved system(s) for tracking clients through rehabilitation. With data provided by Wisconsin Division of Vocational Rehabilitation, this project will attempt to determine whether there is the need for a data retrieval system for tracking rehabilitation clients, and, if so, the nature and extent of that system. In particular, the utility of the Facility Program Termination Report will be appraised as a key component of such a tracking system.

The fundamental processes used to determine the extent of that need are founded upon systematic analyses and evaluation of the utility of data presently contained in the state systems for purposes of tracking. The results of the project will, therefore, provide the Center with timely descriptions of how rehabilitation services are delivered to clients and how the system is delivered to Vocational Evaluation and Vocational Adjustment clients. Where needed, the project may then identify technologies or develop and test a retrieval system which may be usable by other agencies for forecasting and planning purposes.

7. Objectives

The objectives being addressed in this project are:

1. To obtain a usable and accurate picture of how rehabilitation facility services in Wisconsin are delivered to clients.

2. To obtain a usable and accurate picture of how the rehabilitation system in Wisconsin is delivered to clients who receive Vocational Evaluation and Work Adjustment services as part of their rehabilitation program.

3. To determine the utility and design characteristics of a client tracking and data retrieval system which will allow the state agency and service delivery personnel to have accurate information for use in their regular planning and redevelopment cycles.

8. Methodology

Subjects

The subjects of this project are clients served by the state vocational rehabilitation program and who receive services from vocational rehabilitation facilities. Two samples of clients served in Wisconsin are focused upon. The first sample includes all vocational rehabilitation clients who received facility services in Wisconsin between October 1, 1977 and September 30, 1978. These 4094 clients are included in a pilot study of the utility of standard information contained in the state's information systems (and especially Wisconsin's Facility Program Termination Report) for tracking clients. The second sample consists of 10% of all clients entering Wisconsin's program between April 1, 1978 and October 1, 1981. These 9000+ clients will be included in a longitudinal study of trends in how services are delivered.

Data Sources

The initial sources of data for use in tracking clients through the vocational rehabilitation system and rehabilitation facility services are the standard data systems maintained by state programs: Client service records, individual fiscal records, follow-up records, and the Rehabilitation Facility Program Termination Report. This later form was designed for Wisconsin to obtain information about outcomes achieved by clients at the conclusion of evaluation, adjustment, training, and placement services. This instrument is expected to provide that state a better tracking capability than presently exists in client and fiscal records.

The client service report is a single data record which contains summary data. Demographic characteristics (e.g., education), economic (e.g., source of support), employment (e.g., work state at application), and disability characteristics are initially entered on this report. As the client moves from status to status, additional summary data are added to it by the rehabilitation counselor (e.g., whether or not specific services were received, date entering and exiting a status). Finally, closure status (e.g., 276, 28, 30) and relevant vocational data (e.g., DOT code of employment and source of support) complete the summary.

Individual fiscal records provide greater detail on entry and exit dates, duration and costs of specific services or goods received by the client. The number of these records depends on how many services or goods were purchased. For each service received in a rehabilitation facility, the Program Termination Report provides more information on the duration of that service, how the client terminated, and the outcome of the service, usually in the form of a recommendation regarding further services or readiness for employment. Special attention in the project is given to examining the limits and utility of that report, as either a client tracking device or as a focal point for devising a tracking system.

Follow-up records are also maintained for clients successfully and unsuccessfully closed. These are voluntary responses to surveys of samples of 08, 28, 30, and 26 closures and may not be available for all closures. The data are measures of the closed clients' present employment, satisfaction with their rehabilitation services, and their recommendation.

Initially, data on fiscal, client, and service use will be concentrated upon in relation to data in the Program Termination Report. In the procedures which follow, they will be merged to form a single data source (for both samples) and examined for their utility and limitation or as a basis for a tracking system.

Procedures

The ultimate role of a tracking system is to provide decision-makers (agency and facility decision-makers, in this case) with forecasts about who is and how the program is being delivered. In effect, if it is sufficient, it should provide accurate and timely descriptions (cross-sectionally or longitudinally) and inferences (probability) about what does or is likely to take place for most or for a given segment of the population (e.g., for a priori target groups of clients such as clients who receive vocational evaluation or target groups based upon the probability that a certain event or outcome will occur). Relevant characteristics and events should be able to be brought together for tracking individual clients moving through the system or for capsulizing the entire program.

No information system is capable of providing answers to all foreseeable questions, but given the existence of a relatively well-developed one, consideration should first be given to whether or not it provides a necessary substantive basis. What kinds of questions need to be answered, what kinds of questions can be answered with it, and what questions require additional or different data is a basic process concern underlying the procedures followed in this project.

Rather than designing a totally new (and unimplementable) system, the procedures involve identifying types of questions or issues which relevant rehabilitation personnel would want to have answered; determining whether data exists in the data system and can be brought together to answer these questions; devising profiles which may or may not define targetable groups in time; and identifying alternative techniques for addressing the data or defining parameters of a supplemental usable tracking system.

The procedures we follow in this project are outlined as a series of discrete activities for convenience of organization only. Most of them overlap and are intertwined with each other. In very general terms, the procedures involve establishing a method for evaluating the utility (possibilities and limitations) of the state's information system for tracking; exploring the actual potential of the data-base against those criteria and through statistical analyses; generating statistically descriptive reports; and drawing conclusions regarding its utility and design alternatives. We summarize below the major activities that are engaged in pursuit of the two process objectives (description of services used in Wisconsin) and our basic outcome objective (the tracking system). Specific intermediate products that can be expected during the course of the project are described as each activity is outlined.

Step A. Utility Criteria. There are numerous criteria that can be applied to evaluate the utility of an existing information system. These may include validity of information, accessibility, cost, and ease of management. They are important criteria for a tracking system as well. The fundamental criteria, though, is whether the system provides quality answers to priority questions which the dominant users of the system might pose.

Once a range of questions is derived, the existing system is explored for data items with which to answer representative questions from that range. Samples of data from the system are then drawn and answers formulated. Those answers can be reviewed by potential users and the quality of the output judged in terms of the thoroughness, accuracy, confidence, and cost to derive the answers.

A consortium of state agency, facility, and Center personnel has been established (1) to formulate (brainstorm) significant issues and questions of concern to both facilities and the state agency with respect to services provided to facility clients; (2) to appraise the usefulness of answers to the samples of those questions; and (3) to identify possible alternative types of data (e.g., client, economic or test data), sources of data (the client regional VR office or facility files), and methods of collaborative data retrieval or collection.

The consortium has identified a "laundry list" of concerns about clients and the effects of services on clients, both from the state agency and facility point of view. These concerns form the basis to determine whether the Program Termination Report (in conjunction with client service, fiscal, and follow-up data) provides partial or full answers to the concerns phrased as research questions. Issues or concerns raised by the consortium fell into two topical areas: (1) Who is the client in the vocational rehabilitation system? (e.g., who is the Vocational Evaluation client?); and (2) How are facility services being provided? (e.g., What is the probability of a client who receives vocational training becoming employed?). These basic classes of questions guide subsequent analytic activities outlines in Steps C and D.

Step B. Technology of a Tracking System. There are two major kinds of activities that are engaged in in establishment, maintenance and accessing of a tracking system. One involves the physical installation of a data system. The second involves establishing procedures or techniques for accessing, abstracting, and updating the data system. As these technologies are found to be applicable, they will be published through the RTC Connection.

Initially, reliance in this project is on the existing systems of the state agency. Data on all facility served clients in one fiscal year (1977-1978) and data on 10% samples for 3 additional fiscal years (1978, 1979, 1980) from their systems are to be used. Those data systems were designed for cross-sectional reporting purposes, rather than for research, and are maintained on a computer system which does not have extensive support for complex statistical analyses or file reformating and integration.

Data tapes, which include client, fiscal, follow-up, and facility records for all samples of clients from the State of Wisconsin's administrative computing system (IBM) are first translated for use with a Univac 1108 computer.

The Unified Data Handler and the Miser Data Base System at the Madison Academic Computing Center are expected to be the primary method for creating and maintaining a "querriable" master data-base. If so, this will be a unique accomplishment in that this master data-base will merge and allow regular updating with new information on current clients, on new clients, and can be analyzed with such standard statistical packages as SPSS and BMD. This system is tested with a small subset of the pilot study data before being tested with the entire 1977-1978 data sample.

Selecting or determining techniques for accessing and reporting information from the system which is optional is the second activity. Standard statistical packages (e.g., SPSS) serve the researcher in that they provide researchers access to the most widely used hypothesis testing statistical procedures. These techniques were generally designed for "batch" operations, rather than an "interactive" or "querrible" approach. Recent developments in the data processing field suggest alternatives for both phrasing and having questions answered quickly (e.g., linear programming, minitab) and for characterizing sets of data (classification, clustering, and interaction detection).

As attempts are made to answer questions (from Step A), interactive approaches and alternative techniques for data analyses are judiciously explored, as well as the more usual descriptive (means, standard deviations, percentages), and inferential (nonparametric, analysis of variance, and multiple regression) techniques that are generally used in batch mode.

Step C. Integrity of the Data-Base. These activities include classifying specific data items in the system as to their relevance to key questions that are to be answered, identifying logical groupings of items and time frames for subsequent analyses, and computing basic cross sectionals of the pilot sample data.

In the most general sense, these activities center around becoming familiar with the physical content of the data systems, the metrics of specific items and their limitations for particular forms of analysis. In the more specific sense, these activities focus in on appraising the utility of the Program Termination Report for tracking. The results will also provide an elementary picture of who is served in rehabilitation facilities (Objective 1) and how rehabilitation is delivered to Vocational Evaluation and Work Adjustment clients (Objective 2).

Standard cross sections of the client demographic service, fiscal and Program Termination Report data are first computed. The frequency with which specific demographic characteristics or traits (e.g., sources of referral, ages), events (e.g., services used, status changes), and outcomes (e.g., eligibility decisions, service recommendations, closures) occur in general in the sample and how cost, time and other continuous variables are distributed within the sample are so determined. From these analyses, answers to simple descriptive questions are derived (e.g., what is the probability that facility clients will close 26? What is the most common outcome of Vocational Evaluation? What is the average length of Vocational Adjustment?).

Analyses of cross-breaks and correlations computed among demographic traits, events and outcomes are next computed. From these analyses, answers to slightly more complex questions are determined (e.g., What is the relationship between recommendations from Vocational Evaluations and rehabilitation closure?). These analyses also determine whether certain statistical procedures can be applied to the data for answering questions of concern to potential users of the system (e.g., Are there enough persons in the sample with disabilities A and B to see whether the recommendations coming from Vocational Evaluation differ significantly for those two groups?). In addition, by examining the relationships between variables on movement between statuses, costs, and time associated with different statuses, types of services and goods provided clients, and types of closure, paths (i.e., hypothetical tracks) which clients follow in the system may be identified for future testing and use in providing an accurate description of clients' rehabilitation.

Step D. Utility of the Data-Base. These activities focus on attempting to determine Evaluation and Adjustment services provided through the system and evaluate the utility of the present data and particularly utility of the Program Termination Report in a tracking system. The first set of activities refer to statistical analyses and the second to review of the findings of those analyses.

The Automated Interaction Detection Program (AID) is used as the basic technique for analyzing interactions among client and service pattern data. AID is a multi-variate analysis technique which is useful with categorical data. It can be used to predict outcomes at several points in the rehabilitation process and can be used to cluster individuals having similar characteristics and similar probabilities of an outcome. Thus, analysis of data focuses on the interaction of client variables and the patterns of services for clients. Again, data used will be for the 1977-1978 sample.

Client, fiscal, and service data will be related to four decision points (or outcomes, if you will) in rehabilitation: Eligibility Decisions, (accept, not accept); Recommendations from Evaluation; recommendations from Adjustment Services; and Rehabilitation Closure (28, 30, 49,26). These analyses will be conducted serially to identify traits, events, and outcomes which best predict a particular, but later, outcome or decision. Overall examples of paths by which clients proceed through the rehabilitation program to certain ends (i.e., closure status) will then be derived.

Client demographic and some service data will be used to determine groups of applicants who are more/less likely to be admitted to the rehabilitation program. These findings provide a tentative description of who is served in rehabilitation facilities (Objective 1). Client (including closure status), service, and fiscal data are used to determine groups of clients who are more or less likely to have certain recommendations (outcomes) from Vocational Evaluation and Vocational Adjustment (Objective 2). Together these findings will be made available as an intermediate research report.

Client, service (including recommendations from service) and fiscal data are used to predict closure status; and determine whether certain recommendations from the services lead to greater likelihood of successful closure. Essential data for judging the utility of the Program Termination Report in tracking a client is provided. These client groups which may require more intensive tracking or alternative rehabilitation programs are also identified (Objective 3).

Evaluation of the utility of the Program Termination Report and the existing information system will be made by the consortium using the results of the above analyses. The basis for judging utility, again, involves how well the system meets their concerns and questions.

Concerns and questions posed, but unanswerable, will provide the basis for suggesting refinements to the system. Three new directions which might be proposed could be (1) revision of the Program Termination Report to incorporate new data items, (2) development of a new system to collect needed data items, or (3) integration of the Report with other existing but untapped formal sources of information in facilities of the state agency.

Step E. Longitudinal Study. Implementation of a longitudinal study of the rehabilitation client and delivery of facility services to clients will begin after determining the need for a tracking system. This phase of the project is expected to be a demonstration of the applicability of a research data-base for answering specific adminisrative questions and for estimating existing or predicted effects of service delivery on clients which are needed for planning, development and operation of an effective and dynamic state vocational rehabilitation program (Objective 3). Ten percent random samples of all clients entering the state rehabilitation program between April, 1978 and October, 1981 are being selected as the subjects of this research and demonstration phase of the project.

The longitudinal study will be directed at providing the accurate description of clients and services sought under the first two objectives. At a minimum, the validity of the description arrived at in Step D of who and how facility clients are served will be determined.

Timelines

March, 1981	Continue bi-annual collection of VR data and translation for Univac 1100 Computer.
April, 1981	Meet with state agency for review of preliminary analyses of pilot data.
June, 1981	Complete analysis of pilot data.
July, 1981	Meet with agency and consortium to review findings and data needs for tracking system.
September, 1981	Design and initiate longitudinal studies.
October, 1981	Complete report on targetable groups served by facility programs.

November, 1981	Define characteristics of tracking system.
December, 1981	Meet with agency personnel and initiate installation and test of tracking system.
February, 1982	Complete update and preliminary analyses of data from longitudinal study.
March, 1982-March, 1983	Provide longitudinal and trend studies reports.
April, 1983	Review overall findings of project and evaluation of tracking system with consortium. Complete documents on technologies for a tracking system.
May, 1983	Complete documents on trends and population characteristics of facility-served clients.
June, 1983	Complete final report on project.

9. Relevance of the Problem

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

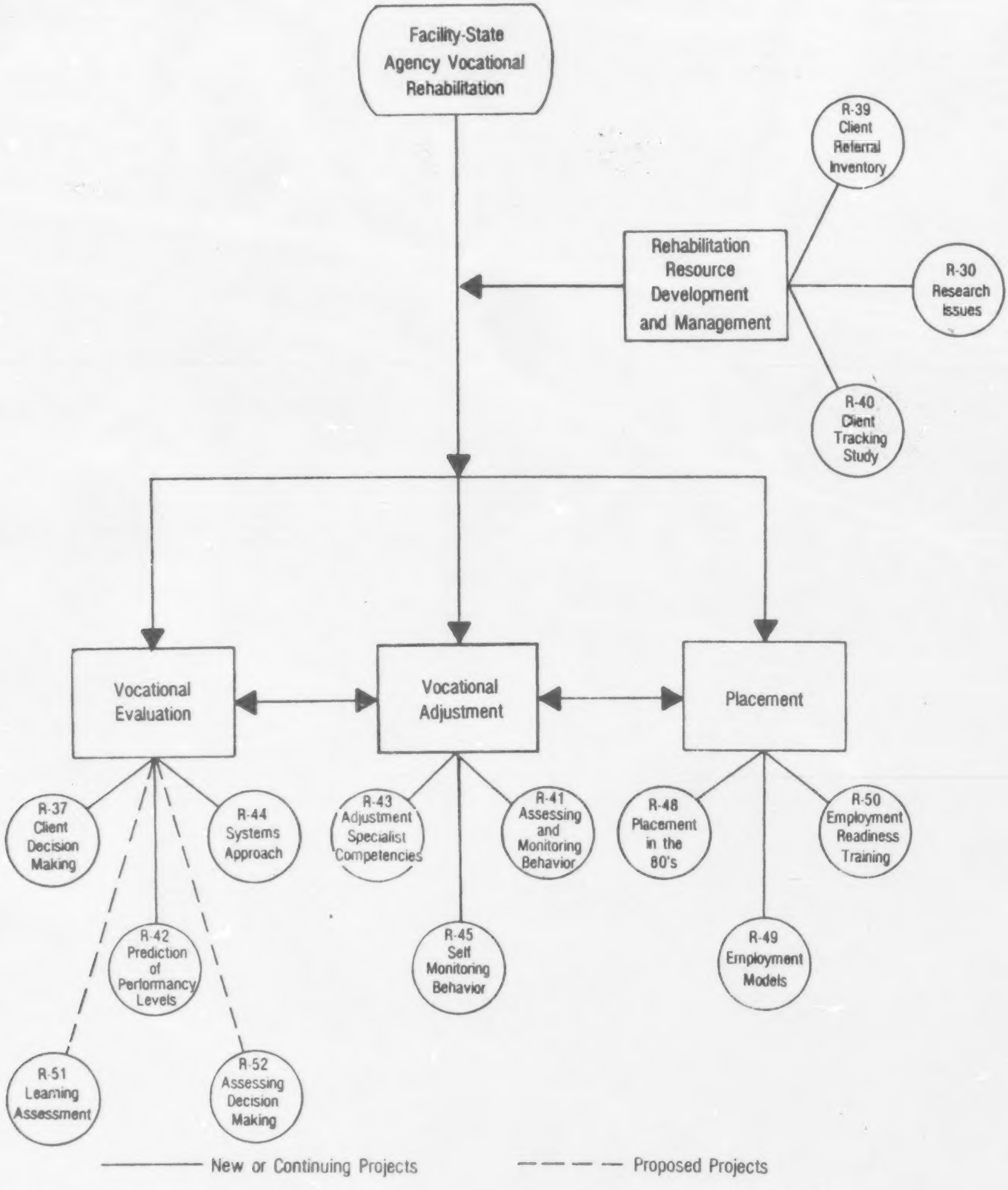
Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

From Figure 1, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52. Three projects address specific concerns within Vocational Adjustment (R-42, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, and R-50).

Consistent with the Rehabilitation Resource Development and Management research line, this project examines how rehabilitation facility services are provided to state rehabilitation agency clients. Research here attends to such questions as what factors influence eligibility determination; how clients are referred for services and what sequence of service they typically receive; how clients are affected by a sequence of related services; how the state service network operates; and how the counselor and service providers communicate their expectations, intents, and service outcomes. The impact of this research line can be expected to be on how services are delivered within the state-facility network. This project develops a capacity to track clients as they move from intake through their rehabilitation program to placement and follow-up.

This study will also provide the Center reliable information for planning research priorities and to help identify any needed changes in research lines. It is expected to provide statistical support to the three lines of research established to improve Work Evaluation, Work Adjustment, and Placement services. It should provide findings on an important dimension of the state-of-the-art with respect to utilization of those services.

To the Rehabilitation Field

This project is expected to provide state agency and facility administrators with longitudinal data for planning in relation to clients served. It is further anticipated that the data will provide the field with an understanding of vocational rehabilitation clients and their service patterns and outcomes. With respect to rehabilitation personnel, the findings should identify staff needs with regard to training and agency needs regarding staffing. Rehabilitation professionals raise the issue of who (e.g., severely disabled, physically handicapped, MR) is really being served in rehabilitation; what services are provided for the client, and are those services prescriptive enough to meet the client's needs. This project will provide rehabilitation professionals fundamental information with respect to these complex problems. Findings of this study should indicate what persons are served and what services they are sequentially provided to maximize their rehabilitation potential in relation to their disability. The project will also obtain certain information on persons and disability groups not currently involved in the vocational rehabilitation system, but tracking of the ineligible client is not a specific objective of the study.

10. Client Characteristics

No clients will be directly involved in the project. However, determining the characteristics of clients in this tracking study is of primary concern. Other characteristics for which data is needed will be identified. Client benefits from this project will be indirect. The data collected and analyzed, though, is expected to enhance program planning and change in the area of client services.

11. Current Year's Activities

During the previous year of the project, five process activities were undertaken or accomplished consistent with procedures and objectives outlined above: (1) Issues, concerns, and questions were solicited from a consortium of potential users of a tracking system and analyzed for use in framing the direction of specific analytic activities, (2) relationships and procedures for obtaining state data on a regular basis were initiated; (3) translation of initial data from the IBM to a UNIVAC 1100 computer was accomplished; (4) fiscal, client, service, and outcome data were then merged into a single master data-base with the expected properties of being interactively "querriable" and able to be updated (expanded) in a responsive and convenient fashion; (5) cross sectional analyses of the basic client, fiscal, and service data were conducted to identify some basic characteristics, service outcomes, and possible service patterns of clients who receive facility services.

This year, three major kinds of activities have been engaged in. Attention was first given to technical problems involved in maintianing and updating the master, integrated data-base. Alternative data structures and programming resources continue to be explored for fully resolving this.

Most attention, though, has been given to developing some tentative picture of to whom and how the program is delivered to clients in the facility sample (Objectives 1 and 2). In particular, we have begun to identify "targetable" groups of clients; that is groups of clients, served by rehabilitation facilities, having similar personnel characteristic patterns of service, resource uses, and kinds of outcomes.

Four decision or outcome points in rehabilitation are focused upon in these exploratory studies: Eligibility Decision, Recommendations from Vocational Evaluation, Recommendations for Vocational Adjustment, and Rehabilitation Closure. Exploratory studies this year focused on the relationships of key demographic, service and status variables to eligibility decision (i.e., who gets in) and rehabilitation (i.e., who leaves unsuccessfully). Choice of initial variable as predictor of these criteria was based on issues raised by the consortium and variables found in previous research (Lorenz, 1973; Scheinkman et al., 1975; Byrd, 1978) to be important predictors of outcomes or decisions. These groups of clients, formed on the basis of their common traits or experiences, are also groups of clients who could receive greater scrutiny in either a detailed tracking study or could be the recipient of differential experimental programming.

Four sets of analyses were conducted using AID to identify generally unique targetable groups of applicants and clients. The first set of analyses identified demographic characteristics of applicants which predict an eligibility decision. The last three sets of analyses identified the demographic characteristics, times in statuses, and services which are predictive of rehabilitation outcome. These findings will need to be replicated with additional samples as part of the longitudinal study.

The results of those analyses are summarized separately in four tables. The general and specific demographic or service characteristics which are found to differentiate the applicant groups or the closure groups are listed along the left columns in the tables. Each of the columns in the remaining body of the table depict the characteristics of a targetable group. The X's within the column indicate the trait or experiences which most characterize a group. The probability of either their acceptance or successful rehabilitation is reported at the bottom of the column. Finally, the groups are arranged in order of their probabilities, respective to the overall (average) probability of acceptance or rehabilitation.

Who is Accepted for Rehabilitation? Twelve demographic characteristics of applicants were used to predict eligibility. Five of those 12 characteristics were found to be unrelated to a decision to accept or reject an applicant. An eligibility decision, in this sample, is independent of the applicant's sex, race, educational background, severity of disability, and/or whether the applicant was also an SSDI applicant. Regardless of these characteristics, the probability that an applicant will be accepted is .77.

Specific categories and combinations of categories of 7 demographic characteristics of applicants tended to differentiate eligible and ineligible applicants. These predictive characteristics are listed on Table 1, along with categories that are most relevant in prediction. The body of the Table is given to cataloging separate clusters of applicants and the specific combinations of characteristics which make them unique. To the left are groups with highest probabilities of acceptance into the rehabilitation program. To the right are groups with least likelihood of acceptance. The interactions of primary source of support, primary disability, age, and marital status seems to most influence the decision.

The characteristics of eleven targetable groups of applicants and their chances of acceptance are summarized on Table 1. For instance, in column A, the applicant who is 19 years or older, has some personal and local service of support, presents a primary disability of a orthopedic (usually) or auditory impairment has a probability of being accepted for rehabilitation of .92. On the other hand, applicants who are primarily supported through federal or institutional funds, have been institutionalized, are under 18 or over 40 years of age have never married only a 3 to 5 chance in 10 of being accepted for services. (in columns J and K, p=.3 and .5)

What are the Characteristics of Persons Rehabilitated? Fourteen demographic client variables were introduced to determine which combinations of them characterized successful (26 closure) and unsuccessful closures (28, 30 closures). As in eligibility decisions, the sex, race, and education of the client are unrelated to rehabilitation outcome. While age makes a difference with respect to whether or not an applicant is accepted, once accepted, the client's age does not appear to influence the outcome.

TABLE 1: Demograhpic Characteristics Predicting an Eligibility Decision: (N=1372)

DEMOGRAPHIC CHARACTERISTICS	RELEVANT CATEGORIES	APPLICANT GROUPS											
		MOST ELIGIBLE					ALL APPLICANTS	LEAST ELIGIBLE					
		A	B	C	D	E		F	G	H	I	J	K
Primary Disability	Vision, Hearing, Orthopedic Impairment	X											
	Psychological, Other		X					X					
Secondary Disability	Orthopedic Impairment, Psychological												
	Other, Unknown					X				X	X		X
Age	18 Years or Less								X	X		X	
	19-39 Years	X	X	X				X		X			
	40+ Years	X	X	X				X					X
Marital Status	Married or Divorced				X								
	Widowed, Separated, Never Married					X				X	X	X	X
Referral Source	Educational, Public (Other), Individual					X							
	State Mental Health, Health, Welfare or Private (Other)									X		X	X
Prime Source Support	Current Earning, Family or Friends, Private Relief, Public Assistance, (Non-Fed) Workman's Comp, Private Institution	X	X	X				X	X				
	Public Assistance (Fed), Pub Institution (Tax Supported), SSDI, Other Disability or Retirement (Private or not)				X	X				X		X	X
Type Previous Closure	Not Previous Client or Rehabilitated		X								X		
	Not Rehabilitated							X					
	GROUPS	A	B	C	D	E	ALL	F	G	H	I	J	K
	PROBABILITY ACCEPTANCE	.92	.87	.87	.81	.77	.77	.66	.58	.56	.53	.50	.30
	ANALYSIS A: % OF SAMPLE			57	13	9	100	4	3		6	9	
	ANALYSIS B: % OF SAMPLE	13	4		14	9	100		2	7	6		2

Twelve groups, as characterized in Table 2, received services in rehabilitation facilities in Wisconsin. Six targetable groups(G-H) are represented there which have less than average likelihood of success. These groups might be ones which should be identified as they enter the system, tracked and a fuller understanding of the probable causes of their failure obtained. Alternatively, new groups with these characteristics may become the subject of new/experimental approaches in delivery of specific types of rehabilitation programs.

What are the Relationship Between Times Spent in the Various Statuses and Outcome?

Client times in the 12 process statuses of the vocational rehabilitation program were used to predict rehabilitation outcome. These time estimates were not computed from status change dates, but rather relied on the gross categories provided on the client record. AID analyses were computed under two assumptions: (A) That all subjects could reach statuses 20 or 22, and (B) that some clients would not reach those statuses.

Table 3 summarizes time in status patterns which differentiate groups of clients who are more or less likely to be rehabilitated. How much time the client spent as a referee (00), an applicant (status 02), or a client awaiting implementation of an IWRP (12), in restoration (16), and in guidance and counseling (14) does not appear to influence the outcome.

As might be expected, whether a client reaches status 20 or 22 does make the major difference (under Assumption A). If the client spends over 30 days in status 22, closure 26 is almost guaranteed. Spending more than a month in extended evaluation and/or more than six months in training, however, diminishes the likelihood that the outcome of rehabilitation will be positive.

When the assumption is not made that a client can reach statuses 20 and 22, the amount of time spent in developing an IWRP and in training appears to make the biggest difference among groups of clients who are more or less likely to be rehabilitated. If up to three months time is spent in developing an IWRP, and training is selected which is very brief or in excess of a year (see Groups B and C on the Table), the probabilities are very high (.86, .84) that rehabilitation will be successful. On the other hand, if excessive time is spent in arriving at a plan and no training takes place (see Group I), the probability of successful rehabilitation is significantly diminished (p=.69).

What Services Lead to Successful Outcomes? Two analyses examined the interaction of various client service patterns as they relate to successful or nonsuccessful rehabilitation outcome. In the first analysis, 16 services were used to predict successful (Status 26) or nonsuccessful (Status 28 or 30) closure, based on the assumption that clients should receive all services. In the second AID analysis, only 15 services were used as predictor variables, based on the assumption that clients would not have an equal opportunity to receive placement services. A total of 1039 clients were in the sample which was a subset of the one used in the above AID analyses. The results of these two analyses are presented in Table 4. Only those services which were found in the AID analysis to contribute to at least 1% of the remaining variances are included on that table.

TABLE 2: The Characteristics of Groups of Clients Who are More or Less Likely to be Successfully Rehabilitated

		CLIENT CLOSURE GROUPS												
		MOST			SUCCESS			ALL	LEAST			SUCCESS		
CHARACTERISTICS	LEVELS	A	B	C	D	E	F	CLOSURES	G	H	I	J	K	L
Severity of Disability	Severe		X			X			X		X		X	
	Not Severe	X		X	X		X			X		X		X
Primary Disability	Visual Impairments		X	X										
	Hearing Impairments			X										
	Orthopedic/Functional		X	X										
	Absence/Amputation	X	X		X		X			X		X		X
	Psychological	X			X		X			X		X		X
	Other			X										
	None/Unknown	X			X		X			X		X		X
Secondary Disability	Visual, Orthopedic, Psychological				X		X					X		
	Hearing, Other													X
Marital Status	Married, Living w/spouse		X			X			X		X		X	
	Not married/Not living w/spouse													
Work Status	Wage/Salary, Unpaid family worker	X												
	Homemaker, Student, Trainee				X		X			X		X		X
Referral Source	Educational/State Mental Health Inst				X									
	Health/Welfare Agency											X		
	Public Organizations/Other				X									
	Individuals				X									
SSDI Fund	Allowed or Pending								X		X			
	Denied, N/A, Unknown		X											
Source of Support	Current Earnings		X				X		X		X			X
	Family and/or friends		X		X				X		Y	X		X
	Private Relief Agency		X						X	X	X			
	Public Assis, Federal		X				X		X		X			X
	Public Assis, Non-Federal			X								X	X	X
	Public, Tax supported Inst.						X						X	X
	Workingmen's Comp/SSDI		X						X	X	X			
	Other Disability/Retirement (Not Ins)									X				
	Private Disability, Insurance				X							X	X	X
	Not Known									X				
	GROUPS	A	B	C	D	E	F	ALL	G	H	I	J	K	L
	PROBABILITIES SUCCESS	1.0	.93	.90	.89	.86	.76	.76	.69	.59	.59	.58	.48	.48
	PERCENT OF SAMPLE	3	4	17	13	9	5	100	26	3	6	3	8	3

TABLE 3: Relationships of Time in Status to Probability of Being Successfully Rehabilitated

		CLIENT CLOSURE GROUPS												
		MOST SUCCESS				ALL	LEAST SUCCESS							
STATUSES		A	B	C	D	CLOSURES	E	F	G	H	I	J	K	L
06 Extended Evaluation	Lt 30 Days												X	
	1+ Months							X						
10 IWRP Development	Lt 30 Days		X	X						X		X		
	1-3 Months		X	X					X	X				
	4+ Months								X		X			
18 Training	Lt 30 Days			X				X					X	X
	1-6 Months							X	X	X		X		X
	7-12 Months								X		X			X
	1+ Years		X				X							
20 Employment Ready	Lt 30 Days						X	X	X			X	X	X
	1-6 Months				X									
	7+ Months				X									
22 Employed	Lt 30 Days				X		X	X	X			X	X	X
	1-6 Months	X												
	7+ Months	X												
24 Services Interrupted	Lt 30 Days							X	X			X	X	
	1+ Months													X
PROBABILITIES SUCCESS		.94	.86	.83	.78	.76	.75	.73	.71	.70	.69	.46	.45	.23
ANALYSIS A: % OF SAMPLE		47			13	100	7	3	4			4	20	3
ANALYSIS B: % OF SAMPLE			13	28		100				38	21			

TABLE 4

Patterns of Service for Client Groups Which are More or Less Likely to be Rehabilitated

SOURCES USED OR NOT USED	GROUPS										
	MOST SUCCESS						ALL CLOSURES	LEAST SUCCESS			
	A	B	C	D	E	F		G	H	I	J
Psychological Evaluation						X			X		
Vocational Evaluation[1]		+	+	+	-	+		+		+	-
Personal/Vocational Adjustment								X			
On-The-Job-Training				X							
Job Placement Services	X										
Maintenance and Transportation[2]		X	X					X			
Other/Other Goals and Services			X								
GROUP	A	B	C	D	E	F	ALL	G	H	I	J
PROBABILITIES	.91	.89	.86	.85	.84	.78	.76	.68	.58	.55	.43
% SAMPLE 1	65						100		11		25
% SAMPLE 2		6	3	8	27	21	100	19		16	

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[1] + or - indicates that clients had or did not have Vocational Evaluation

[2] Provided in post-diagnostic stages

The final groups from the two analyses are labelled with letters from A to J and are ordered from left to right, according to the probability of successful outcome for the groups. The groups labelled A, H, and J were the three final groups that resulted from the first AID analysis. Only two splits were made in this analysis, first on Placement and again on Psychological Evaluation. The splits on these two variables accounted for 24.4% of the criterion variance. Those individuals who had received placement services (Group A in the table) had a probability of .91 of a successful closure. This was considerably higher than the overall rate of .76 for all clients. The clients who had not received placement services were further split on psychological evaluation services. Those who had no placement and did receive psychological evaluation had a probability of .58 of closing successfully, whereas, those who had not been psychologically evaluated had a probability of only .43 of successful closure.

A tentative examination of the demographic characteristics of each of these groups was then conducted in order to determine whether there were important differences on any of those variables as well. In general, the groups were highly similar in demographic characteristics. The only consistent differences between the three groups were in the severity of disability and in the level of educational attainment. The groups which had the lower probability of successful outcome had a higher percentage of severely disabled clients and tended to have less education.

The second AID analysis investigated service pattern interactions, but with Placement not included in the analysis. The final groups from this analysis are labelled B, C, D, E, F, G, and I in Table 4. This analysis accounted for 6.4% of the criterion variance. The first split in this analysis occurred on Vocational Evaluation. Clients who had not had Vocational Evaluation had a probability of .84 of successful closure. There were several splits made for the group which had received Vocational Evaluation. Splits occurred from On-The-Job Training, Psychological Evaluation, Maintenance and Transportation (post-evaluative), Other Goods and Services, and Personal/Vocational Adjustment, in that order. The probabilities of successful closure for each of the resultant groups can be determined from Table 4. It can be seen in the table that Groups B through F were above the overall mean probability of successful closure (.77). Groups G and I were below the mean probability level, however. Both of these groups had Vocational Evaluation with no On-The-Job Training and no Maintenance and Transportation (Group I) or Maintenance and Transportation but no Other Goods or Services and Personal/Vocational Adjustment (Group G).

Continuing collaboration with the state agency has been the third activity The direction and results of the project, to date, have been reviewed. Modifications have been incorporated consistent with ongoing changes at the state level. Specifically for the agency, the Center and the facility information needs are now being identified and will continue this year. The agency continues to provide regular samples of data from their systems for use in this project.

12. Dissemination of Findings

Findings of the project will be disseminated as follows:

Center Research Reports

Results of all data analyses will be disseminated in specific Center research reports to the State Vocational Rehabilitation Office, participating counselors, and rehabilitation facilities in Wisconsin. Quarterly reports will be disseminated on a systematic basis over four years or until the clients who are being tracked leave the rehabilitation system.

Journal Publications

Significant findings will be prepared for journal publications and submitted to, as appropriate, the *Vocational Evaluation and Work Adjustment Bulletin*, *Rehabilitation Counseling Bulletin*, and *Journal of Applied Rehabilitation Counseling*.

Training and Implementation Reports

The project findings in identifying client characteristics and service programs may suggest staff training needs to effectively serve the types of clients being received in facilities. Brief reports will be prepared for the *RTC Connection* and *Interface* for wide dissemination of summarized results.

13. Utilization of Findings

Today, planning by rehabilitation facility planners determines who is served and how they will be served. This decision-making process should be continuous and, at the time, reflect any change in the vocational rehabilitation client or his rehabilitation process. Effective decision-making can be implemented through a systematic program of retrieving client information. It is possible that information provided during the project may lead the state agency and facility administrators to reconsider earlier decisions. Such practical considerations are among the major contributions derived from this tracking study. The findings of this study are to provide state and facility administrators with data for long-term planning. Since the state rehabilitation agency is a major purchaser of facility services, the findings will be mutually beneficial to both the facility and state agency so that their shared client services are appropriate high quality services.

14. Policy, Program, and Practice Changes

This project will provide longitudinal information about the vocational rehabilitation client for the state agency and rehabilitation facilities in Wisconsin. It is possible that the project findings will effect changes in existing policies/procedures which are felt to impinge on services to clients receiving facility purchased services. Future program development is also expected to be influenced by the project findings. Knowledge of client information over a period of time will provide decision-makers with an accurate basis for effectively planning future change and growth to enhance client services. It is further anticipated that policies of hiring and staff training may be reviewed as a result of the findings of this project.

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RESEARCH PROJECT REPORT Project No. R-47

1. Title Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients

2. Project Status (Check):

Proposed ___ New ___ Continuing ___ Completed ___ Discontinued ___

Transferred x Other ___ Combined with R-39

3. Beginning: ___ mo/yr Expected Completion: ___ mo/yr Completed: ___ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82

5. Financial Data:

Estimated Cost From Beginning to End of Project: ___

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs								
Supplies and Other Expenses								
Travel								
Equipment								
Indirect Costs Allowed by								
Total								
Percent								

*For report year and continuation year

RESEARCH PROJECT REPORT Project No. R-37

1. Title A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients

2. Project Status (Check):
Proposed ___ New ___ Continuing ___ Completed ___ Discontinued ___
Transferred ___ Other x Completing 80-81 grant cycle

3. Beginning: 7/78 mo/yr Expected Completion: 6/81 mo/yr Completed: ___ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Thomas Czerlinsky, Ph.D.	Psychology	40	
Charles Coker, Ph.D. -	Psychology	5	
Clerical		5	

5. Financial Data:
Estimated Cost From Beginning to End of Project: 97,737

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	14,318		1,934				16,252	
Supplies and Other Expenses	3,383						3,383	
Travel	1,275						1,275	
Equipment								
Indirect Costs Allowed by DE	2,846		5,924				8,770	
Total	21,822		7,858				29,680	
Percent	73.5		26.5				100	

*For report year and continuation year

Project Summary

Clients receiving vocational rehabilitation services are often confronted with a major decision -- they must identify realistic vocational goals. In this regard, clients are not very different from nonhandicapped individuals, who also must make such decisions. However, because of the limitations placed upon them by their disability and because of the relatively short period of time that they receive rehabilitation services, clients are under more pressure to make "realistic" choices.

It can be assumed that clients, like nonhandicapped individuals, will vary in the amount and types of problems they face in making vocational decisions. They may range from individuals who have made a decision, are satisfied with it, and know how to implement it, to those who may be termed as having "the indecisive disposition" (Holland and Holland, 1977), where they lack the necessary skills to go about either acquiring information, making a vocational decision, and/or implementing that decision.

The topic of vocational indecision is germane to all individuals, not only vocational rehabilitation clients. The research that has been conducted on this, however, has almost totally considered only high school and college populations (Thoreson, and Ewart, 1976). In this realm, studies have investigated the effects of anxiety on vocational decisions (Hawkins et al., 1977), the relation between vocational self-concept and making vocational choices (Barret and Tinsley, 1977), and strategies used by individuals to avoid making vocational decisions (Rosenberg, 1977). Other studies have been concerned with defining further intra personal factors related to vocational indecision (Holland, Gottfredson, and Nafzinger, 1975; Osipow, Carney and Barak, 1976; Holland and Holland, 1977). And more abstract aspects of decision-making in general have been investigated (e.g., Mostelle and Nogee, 1954; Edwards, 1954; Savage, 1954; Luce and Raiffa, 1957; Coombs, 1964; Edwards and Eversly, 1967; and Keeney and Raiffa, 1976)

Rehabilitation clients' vocational decision-making processes and problems have been little studied, and thus, little is known about clients' vocational indecisions and about possible remediation or treatment strategies directed toward this realm. No rehabilitation service directly treats clients' decision-making problems. Vocational Evaluation programs, however, appear to be the appropriate point in the rehabilitation process to begin such treatment, since these services have the necessary vocational, client, and situational information-gathering techniques to impact a vocational decision-making. The gathering of client vocational information for assessment and prediction purposes is considered the prime processes of Vocational Evaluation. A second process, often not emphasized or not considered, consists of using that information to assist the client in making vocational decisions, and evaluating to what extent the client is capable of making vocational decisions. In Vocational Evaluation, the specification of decision-making skills is typically restricted to statements such as "can't make a vocational choice," "has made an unrealistic vocational choice," "doesn't know what he wants to do," etc. In some programs, attempts are made to assist clients in making a realistic vocational choice through extensive interaction with the client. In others,

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clients don't even know why they are there. The involvement of clients in processing information which rehabilitation professionals obtain about them and in making vocational decisions is important, not only to Vocational Evaluation, but to other services as well. If clients do not actively participate in their own rehabilitation by accepting the responsibility for vocational decisions, then such decisions will be made for them by the various professionals with which the clients interact. Such vocational decision-making skills are important for clients not only to enable them to participate in their own rehabilitation process, but also later, when they are hopefully functioning independently of the rehabilitation system.

There is a definite need in vocational rehabilitation to consider the complexities of making vocational decisions faced by clients, and to develop a means by which service providers can accurately determine what strengths or deficits clients may have in various aspects of making vocational decisions. The development of an accurate tool to assess vocational decision-making capacities -- an instrument that is reliable and valid -- would enable vocational evaluators and other professionals working with clients to identify clients who may have difficulties in making vocational decisions, and, if problems in this realm exist, to determine specifically what the problems may be. Once this can be identified for individual clients, then it will be possible to develop specific vocational indecision remediation strategies to help clients deal with and overcome the particular impediments to vocational decision-making that they may face. Such a process of identifying and then alleviating vocational decision-making problems would benefit clients as well as the vocational rehabilitation system.

This project was directed toward the first of the two steps mentioned above. It examined the vocational decision-making problems that selected groups of rehabilitation clients had and the range of decision-making skills they used. It then attempted to develop and validate a tool -- the Decision-Making Interview -- to measure these skills and abilities. This instrument will have the ultimate aim of providing data about clients to enable evaluators and others working with the clients to tailor their programs and procedures so these clients will receive maximum benefits from their participation in vocational rehabilitation programs.

Subjects

Ninety male subjects were recruited from the State Technical Institute and Rehabilitation Center (STIRC) located near East Lansing, Michigan, and from secondary schools in the Lansing/East Lansing area. Clients at STIRC are vocational rehabilitation clients who are sent for Vocational Evaluation or vocational training. Those in Vocational Evaluation are generally expected to be undecided about their job choice, with the evaluation designed to help end this indecision. Those clients in training, for the most part, have decided on a job goal and are seeking the skills needed to obtain the job of their choice. Seniors in high school should represent a more general range of decision-making stances. Thus, three groups of subjects (30 members per group) were used:

1. Clients in Vocational Evaluation--within the first two or three weeks.
2. Clients late in their training--near completion (last three weeks of training).
3. High school seniors.

Some characteristics of the clients used as subjects are presented in Table I.

Table I

Subjects' Characteristics

A. Age	
1. 17-25	38
2. 26-35	15
3. 36-44	7

B. Sex	
1. Male	60
2. Female	0

C. Minority Groups	
1. White	56
2. Black	2
3. Others	2

D. Income Status	
1. Self	4
2. Family	8
3. Public Assistance	48

Instrument

Before the experimental phase of this project (involving the subjects) was conducted, the Decision-Making Interview (DMI) was constructed. This was based on the relevant literature pertaining to vocational decision-making, and the items that were developed were evaluated and modified by a number of rehabilitation professionals active in the field. The items included in the DMI covered the content areas shown in Table II, with a number of items tapping each of the areas.

Table II

Content Areas of DMI

A. Information Areas
  1. Self Knowledge
    a. needs
    b. beliefs and interests
    c. abilities
    d. personality
  2. Occupational Knowledge
    a. opportunities and requirements
    b. tasks and duties
    c. positive and negative aspects

B. Decision-Making Areas
  1. Acquisition of Information
  2. Processing of Information
  3. Skills in Choosing

Table II (cont.)

4. Success in Previous Choices
5. Responsibility/Control
6. Anxiety/Fear of Decision-Making

C. Implementation Areas in Making the Decisions
  1. Family/Social
    a. coercion
    b. lack of reinforcement
  2. Economics
  3. Mobility

Content validation and item analysis procedures were conducted and the final form of the DMI was an interview format of seventy-three items comprising three scales -- Employment Readiness Scale, Self-Appraisal Scale, and Decision-Making Readiness Scale. Seventy of these items required a subject to indicate whether it was true of himself (true), whether it was not true of himself (false), or whether he was not sure if the statement was true of himself (not sure). Thirty-six items were followed by a prompting question, which asked the subject to demonstrate his knowledge of the material covered in a particular item. All items were scored such that a high score reflected more ability on what that item was tapping. The DMI can be found in Appendix A of Project (P)R-52 in the Progress Report.

Procedures

The DMI was administered to the three groups of subjects. It was expected that, on the total DMI scale as well as on the three sub-scales, clients in Vocational Evaluation would score lower than those in Vocational Training, and high school students would score at an intermediate level. Also administered was a demographic questionnaire and the Career Maturity Inventory-Attitude Scale (CMI), a possible indicator of the concurrent validity of the DMI. The DMI and the demographic questionnaire were administered orally in individual interviews, while the CMI was administered orally in a group at the end of the day.

Results

The major results of this study fall into three categories: reliability, concurrent validity, and discriminant validity.

Reliability. Item analyses and reliability estimates for the three DMI scales as well as for total score are shown in Table III. The reliability estimate was .62 for the Employment Readiness Scale, .63 for the Self-Appraisal Scale, and .79 for the Decision-Making Readiness Scale. The reliability estimate for the total DMI scale was .84. These results indicate a reasonable degree of internal reliability for this initial version of the DMI.

A correlational analysis was conducted between the three subscales as well as the total score, and the results of this are shown in Table IV. The ideal pattern here would be to show low correlations between the subscales, and a higher correlation between each subscale with the total score. As Table IV shows, the highest correlations were between each subscale with the total score. However, there was also significant overlap between the different subscales, suggesting that each of the DMI scales was not tapping a totally unique area.

Table III

Item Analysis and Reliability Estimates for DMI Scales

(N = 90)

Scale	Number Of Items	Mean Score	Mean Difficulty	Standard Error of Measurement	Reliability Coefficient
Employment Readiness Scale	20	12.7444	.6372	1.7730	.6167
Self-Appraisal Scale	26	12.0111	.4620	2.1482	.6295
Decision-Making Readiness Scale	27	9.5556	.3539	2.1182	.7939
DMI (All Scales)	73	34.3111	.3700	3.5776	.8431

Table IV

Inter-Scale and Scale with Total Test Correlations for the DMI

(N = 90)

Scale	Employment Readiness Scale	Self-Appraisal Scale	Decision-Making Readiness Scale	DMI (Total)
Employment Readiness Scale	1.000			
Self-Appraisal Scale	.375	1.000		
Decision-Making Readiness Scale	.436	.550	1.000	
Total DMI	.696	.803	.880	1.000

All correlations significant at $p<.001$

These reliability data indicate that, on this version of the DMI, the three scales appeared to be reasonably internally consistent, and the different scales, while significantly correlated, showed some measure of tapping different areas.

Concurrent Validity. Concurrent validity was assessed by correlating the DMI and its subscales with three independent criteria administered. One of these was the Crites Maturity Inventory--Attitude Scale (CMI) (Crites, 1973). The CMI-Attitude Scale has been used as a measure of decision-making ability (e.g., Chandler, 1978), and it is designed to measure "the feelings, the subjective reactions, the dispositions that the individual has toward making a career choice and entering the world of work" (Crites, 1973, P. 3). The second criterion was an item asking the subject to state three job goals, and the third criterion asked the subject to state three career goals. Both of these items were chosen as indicators of decision-making capacity.

The results of this correlational analysis are shown in Table V. The DMI Total score, the Employment Readiness Scale, and the Self-Appraisal Scale obtained significant positive correlations with all three indicators. The Decision-Making Readiness Scale was significantly correlated with the item asking about job goals, while the correlation with the other two indicators was p<.10. This overall pattern of correlations indicated a reasonable degree of concurrent validity for the DMI.

Table V

Correlation Matrix for DMI and the Concurrent Validity Variables

Scale	CMI	Job Goals	Career Goals
Employment Readiness Scale	.227*	.445***	.425***
Self-Appraisal Scale	.249*	.249*	.223*
Decision-Making Readiness Scale	.193	.254*	.178
Total DMI	.272*	.374***	.317**

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* p<.05
** p<.01
*** p<.001

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Discriminant Validity. The four hypotheses tested to assess discriminant validity were that there would be significant differences in the distribution of scores between the Vocational Evaluation group (who would score lowest), the Vocational Training group (who would score highest), and the high school group (who should show an intermediate level of scores) on: (1) DMI Total; (2) Decision-Making Readiness; (3) Employment Readiness; and (4) Self-Appraisal. Analyses of variances were conducted on these four sets of scores to test these hypotheses, and the results are presented on the following tables.

Table VI

Descriptive Statistics for the Evaluation, Training, and High School Groups on the DMI Total Score

Group	Minimum Score	Maximum Score	Group Mean	Group Variance	Standard Deviation
Evaluation	7	48	31.93	105.24	10.258
Training	26	50	37.33	40.85	6.391
High School	16	53	33.67	92.02	9.593
Total	7	53	34.31	82.71	9.095

Table VII

Analysis of Variance for the Evaluation, Training, and High School Groups on the DMI Total Score

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	Significance Probability
Mean	10592.71	1	105952.711	1445.92	
Groups	456.09	2	228.044	2.87	.0619
Within Groups	6905.20	87	79.370		
Total	113314.00	90			

The results for DMI Total score are shown in Tables VI and VII. The group means differed in the predicted direction, but the significance of the differences was only marginal (p<.10). Also, there was significant heterogeneity of variances (p<.05).

A similar pattern was found on the Decision-Making Readiness Scale, as shown in Tables VIII and IX.

Table VIII

Descriptive Statistics for the Evaluation, Training and High School Groups on the Decision-Making Readiness Scale

Group	Minimum Score	Maximum Score	Group Mean	Group Variance	Standard Deviation
Evaluation	0	19	8.167	23.454	4.843
Training	5	17	10.867	9.913	3.148
High School	1	22	9.633	32.240	5.678
Total	0	22	9.556	22.609	4.755

Again, the means differed in the predicted directions, the differences were only marginally significant, and there was significant (p<.01) heterogeneity of variances.

Table IX

Analysis of Variance for the Evaluation, Training, and High School Groups on the Decision-Making Readiness Scale

Source	Chi Square	Degrees of Freedom	Mean Square	F-Ratio	Significance Probability
Mean	8217.78	1	8217.778	375.77	
Groups	109.62	2	54.811	2.51	.0874
Within Groups	1902.60	87	21.869		
Total	10230.00	90			

For the DMI Total and the Decision-Making Readiness Scale, thus, the results were in the predicted direction, but only marginally significant.

For Employment Readiness and Self-Appraisal, the results were less clear. On Employment Readiness (Tables X and XI) and Self-Appraisal (Tables XII and XIII), the differences between the means of the three groups of subjects were clearly not significant, although the means again were in the predicted directions.

Table X

Descriptive Statistics for the Evaluation, Training, and High School Groups on the Employment Readiness Scale

Group	Minimum Score	Maximum Score	Group Mean	Group Variance	Standard Deviation
Evaluation	4	18	12.23	11.564	3.401
Training	8	17	13.60	4.041	2.010
High School	6	19	12.40	9.448	3.074
Total	4	19	12.74	9.145	3.024

Table XI

Analysis of Variance for the Evaluation, Training, and High School Groups' Scores on the Employment Readiness Scale

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	Significance Probability
Mean	14617.878	1	14617.8777	1771.28	
Groups	33.356	2	16.6778	2.02	.1386
Within Groups	717.767	87	8.2502		
Total	15369,000	90			

Significant heterogeneity of variance was found between the groups on Employment Readiness (p<.025) but not on Self-Appraisal (p<.30).

Table XII

Descriptive Statistics for the Evaluation, Training, and High School Groups on the Self-Appraisal Scale

Group	Minimum Score	Maximum Score	Group Mean	Group Variance	Standard Deviation
Evaluation	0	17	11.53	17.292	4.158
Training	5	20	12.87	11.499	3.391
High School	5	19	11.63	9.826	3.135
Total	0	20	12.01	12.955	3.599

Table XIII

Analysis of Variance for the Evaluation, Training, and High School Groups' Scores on the Self-Appraisal Scale

Source	Chi Square	Degrees of Freedom	Mean Square	F-Ratio	Significance Probability
Mean	12984.011	1	12984.811	1008.67	
Groups	33.089	2	16.544	1.29	.2818
Within Groups	1119.900	87	12.872		
Total	14137.000	90			

These analysis suggested that, on the DMI total score and the Decision-Making Readiness Scale, there was a trend for those clients in Vocational Training to obtain a higher score than those clients in Vocational Evaluation, with the high school students falling at an intermediate point. Furthermore, these results indicate that while the high school group was not consistent in terms of its variability, the Evaluation group of clients was more heterogeneous in their scores on the total DMI scale as well as on two of the three subscales than the training group.

Additional Analyses. An additional analysis used the CMI data in the same analysis of variance design as was used with the DMI data. As mentioned above, the CMI and the DMI were found to be significantly correlated. The effort in this analysis was to ascertain whether the CMI would show similar patterns of mean differences among the three groups of subjects, and whether these patterns would support those found on the DMI. The results for the means analyses were: Evaluation<High School=Training (p<.05). When the variances were analyzed, the results were: Evaluation>Training>High School (p<.05). These results show that the two rehabilitation client groups (Evaluation and Training) show patterns of means and variances that are similar to those found on the DMI. These findings are interpreted as lending support for the findings obtained on the DMI.

Discriminant function analyses were performed on the data to determine which of the DMI items were the best discriminators of subjects who scored high or low on this instrument. This resulted in the selection of 39 items as being the best discriminators. The purpose of this analysis was to determine whether a shortened version of the DMI could be developed which would still have the ability to discriminate between the three groups of subjects. These 39 items covered every category outlined in Table II, and they are the items with an asterisk (*) in Appendix A of Project (P)R-52 in this Progress Report. This shortened DMI was then tested in the same analysis described above. The results (Tables XIV and XV) showed that with 39 items, the obtained F-ration was essentially the same as it was with the original analysis using 73 items. This suggested that it will be possible to develop a considerably shortened version of the DMI without loss in discriminant validity.

Table XIV

Descriptive Statistics for the Evaluation, Training, and
High School Groups on the DMI Total Score (Shortened 39 Item DMI)

Group	Minimum Score	Maximum Score	Group Mean	Group Variance	Standard Deviation
Evaluation	4	27	17.47	33.09	5.752
High School	9	30	19.50	28.81	5.368
Training	12	29	20.33	14.64	3.827
Total	4	30	19.10	26.41	5.139

Table XV

Analysis of Variance for the Evaluation, Training, and
High School Groups on the DMI Total Score (Shortened 39 Item DMI)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	Significance Probability
Mean	32832.90	1	32832.900	1286.91	
Groups	130.47	2	65.233	2.56	.0834
Within Groups	2219.63	87	25.513		
Total	35183.00	90			

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In summary, this exploratory project was directed toward identifying different areas of vocational decision-making capacities which rehabilitation clients use, and then developing and testing an instrument (the DMI) to assess clients in this regard. The results were encouraging for an initial instrument, but further work with the DMI is called for. In a proposed project ((P)R-52), the DMI will be further tested and refined. The research aspects of the current project are essentially completed. The findings of the project are currently being reviewed by Center staff to identify any further analyses that should be undertaken, and to ensure that training implications are understood and that the project findings will be disseminated appropriately. The activities are scheduled to be completed by June 1981:

1. Further analyses directed toward refining the DMI will be completed, involving mainly discriminant function approaches and factor analyses.

2. The inclusion of the topic of client vocational decision-making into training programs will be explored.

3. The full results will be published in an RTC Research Report (Stromer, Czerlinsky, and Coker, "The Development of a Vocational Decision-Making Interview for Rehabilitation Clients").

Dissemination and Utilization of Findings

During the current year, two articles dealing with client decision-making have been published (Czerlinsky and Coker, 1980; Czerlinsky, 1980). Further dissemination will include the RTC Connection, a Research Report, and a journal article (probably in the Vocational Evaluation and Work Adjustment Bulletin). The results of the current project are also being used as a basis for another project, (P)R-52.

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RESEARCH PROJECT REPORT Project No. R-42

1. Title The Use of a Microprocessing System to Predict Practice Performance Levels From Initial Task Acquisition Measures

2. Project Status (Check):
Proposed ___ New ___ Continuing x Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 7/79 (mo/yr) Expected Completion: 6/82 (mo/yr) Completed: ______ (mo/yr)

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Thomas F. Blakemore ABD	Psychology	45	35
Charles Coker, Ph.D.	Psychology	5	5
Vacancy	Computer Specialist		5
Clerical		10	10

5. Financial Data:
Estimated Cost From Beginning to End of Project: 81,886

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	15,085	15,417	2,025	1,640			17,110	17,057
Supplies and Other Expenses	3,542	2,290					3,542	2,290
Travel	1,335	1,012					1,335	1,012
Equipment								
Indirect Costs Allowed by DE	2,994	2,808	6,203	5,112			9,197	7,920
Total	22,956	21,527	8,228	6,752			31,184	28,279
Percent	73.6	76.1	26.4	23.9			100	100

*For report year and continuation year

6. Statement of the Problem

Purpose

Vocational evaluators have traditionally made use of work or job samples to determine a clients potential for performing a specific job or type of job at a competitive employment level. A client might typically be given either one or a small number of sessions to perform the work sample. The client's performance on the sample is then compared to some norm (e.g., an industrial norm) in making the determination as to whether the client should be trained or placed in that type of job. An evaluator would normally use the client's production rate on the work sample when making this decision.

An alternative to simply using a client's average performance rate on a work sample is to monitor how his/her production rate changes with practice. That is, to compute a learning or performance curve for the client and to use this information when evaluating their ability to perform a task competitively. A number of researchers have suggested that the use of learning curves can greatly enhance the ability of vocational evaluators to predict those work areas where clients would have maximal opportunities to gain competitive employment.

There are two overall purposes for this project. The first involves the development of procedures for using learning curves in vocational evaluation. The use of such a technique could enable evaluators to more accurately estimate a client's performance capacity for a specific work sample. The second purpose of the project involves the development of an automated data collector which will monitor the work-sample performance of a client and then compute learning curves from the data which has been collected. Microcomputer technology will be employed to achieve this purpose.

Introduction

The problem of accurate assessment and prediction of the vocational potential of the disabled client has persisted for many years. Within Vocational Evaluation, a wide variety of assessment techniques are used to determine the present functioning level(s) of the rehabilitation client in general and his/her ability to perform in specific job areas. In the traditional approach to Vocational Evaluation, the assessment of the present functioning and the prediction of an individual's work potential are, more often than not, accomplished at the same point in time. The information gathered at this time is used in the development of the Individualized Written Rehabilitation Plan (IWRP) which states the goals of the client's rehabilitation program, the selection of services for that client, and a clarification of the client's occupational objectives. This data, presumably, accurately reflects the client's present functioning, as well as their work potential.

A major exploratory and assessment tool used within the Vocational Evaluation process is that of simulated work (i.e., job/work samples) and actual work tasks. Typically, the criteria employed to determine a person's present functioning on the task(s) is either a measure of the time required to complete a unit (or the whole task), or a transformation of this score into: units produced for specified units of time; number produced minus the number of units rejected per unit of time, etc. The methods frequently used to administer these assessment tools include a single administration of the job/work sample, or a minimal number of administrations, (e.g., five to ten). Scores are frequently developed only for a single or minimal number of administrations with little acknowledgement of individual patterns of skill acquisition.

Once a client has been assessed using a job/work sample, their performance is compared to some norm to determine how well they performed a task relative to other individuals. There is a widespread belief among many vocational evaluators and consumers of these services that competitive norms or industrial norms are the best basis for judging client performance on a work sample (Larsen & Curtis, 1973). In fact, the Commission on Accreditation of Rehabilitation Facilities regulations states that. . .if work samples are used "competitive norms or industrial standards shall be established and used." (CARF, 1976). There are three ways in which competitive norms can be established: (1) by using the performance of a group of workers employed in a particular occupation; (2) by using a predetermined motion-time system, such as MTM or MODAPTS; or (3) by using piece rates established by a time-study, if the work sample is taken directly from an industrial setting. With all of these methods of calculating norms, the individuals upon whom the norms are based tend to have experience and considerable practice with the tasks included in the work sample. The workers whose performance is used to establish competitive norms and those represented in time studies have obviously had experience performing the task. Similarly, the workers upon whom predetermined motion-time studies are computed are also experienced at the task (Schwab, 1963).

There are a large number of studies demonstrating that performance on work tasks involving motor skills shows marked improvement with practice (e.g., Fitts & Posner, 1967; Schmidt, 1975). In addition, further research demonstrates that improvement continues to occur for many thousands (Cochran, 1968) and, in some cases, even millions (Crossman, 1959) of practice trials. The basic conclusion to be reached from studies of motor and industrial work skills, is that these generally show progressive improvement with practice over a large number of trials and, perhaps, many years (Peterson, 1975).

The above findings cast doubt upon the extent to which the current trend of opinion in Vocational Evaluation toward the use of competitive norms and industrial standards with simulated work task data actually will benefit the clients served in evaluation programs. As stated above, competitive norms (such as those derived from a group of employed workers in an occupation) and industrial standards (such as those derived from a pre-determined motion-time study system such as MTM) reflect the performance of experienced workers: those who have had sufficient practice to reach their optimal level of performance. Clients in Vocational Evaluation programs, however, tend to be inexperienced workers: they have had only limited work histories and are unemployed at the time they are receiving services (Dunn, 1975). Comparing the performance of an inexperienced person to norms and standards developed from the performance of experienced persons tends to underestimate the functioning level of the inexperienced person (i.e., that level at which the inexperienced person would perform if provided with practice equivalent to that possessed by the experienced person). In other words, when competitive norms and industrial standards are used with work task time scores, and provision is not made for the individuals taking the work task to have practice equivalent to that enjoyed by the norm or standardization group, the result is underestimation of the client's potential performance level. One consequence of this underestimation is the erroneous exclusion of a job or occupational area for the individual. If this erroneous exclusion occurs early in the Vocational Evaluation process, the result would be to exclude broad occupational areas from further consideration for the client. Error later in the process would tend to exclude specific occupational areas and/or jobs.

The ability of disabled persons to reach an industrial standard criterion within a single administration of a simulated work task appears to be quite limited. Research conducted at Emory University Research and Training Center (Chyatte, 1976) provides client time score distribution and industrial standards based on MTM-3 for two JEVS work samples; union assembly and hardware assembly. These data indicate that only 3.4% of the clients who took the union assembly and 1.2% of those who took hardware assembly reached 100% of the industrial standard. The ability of non-disabled persons to reach the 100% of standard level in a single administration of a work sample appears to be similarly limited. Dunn (1976), in a study of the work sample performance of 54 college undergraduates, found that only 15% of the males and 6% of the females reached the industrial standard during the first administration (50 trials). However, when provided with an additional three administrations (150 trials) of practice, 55% of the males and 42% of the females met the industrial standard. Individualized prediction equations, based on the times for the four administrations, were developed and used to predict practiced ("peak") levels of performance for these subjects. These predictions indicated that, after 20 administrations of the work sample, 70% of the males would attain the industrial standard, while 70% of the females would attain the standard after 25 administrations. In other words, these data suggest that about 20 administrations for males and 25 administrations for females would be required to clearly differentiate those individuals who can readily attain the industrial standard from those who cannot. Thus, in the traditional approach to Vocational Evaluation utilizing one administration, 55% of the males and 71% of the females would have been misclassified.

A number of researchers (e.g., Tillman, 1971; Dunn, 1976) have suggested that one way to overcome the problem of underestimating client potential on work samples is to plot the client's performance data in the form of a learning curve (or equation) and to extrapolate client potential using this data. For instance, Tillman suggested that the client's performance on a task should be graphed with the number of practice trials on the horizontal axis and some measure of performance, such as production rate, on the vertical axis. Such graphic representations, called learning or performance curves, typically show increases in performance with increases in practice. The law of diminishing returns sets in on such tasks, however. That is, the slope of the curve, which represents the rate of learning or improvement, is usually very steep on the initial practice trials but tends to level off as the amount of practice increases. Tillman suggested that clients should be allowed to practice a work sample until their performance curve becomes almost horizontal, that is, until performance is no longer improving and that this level of performance should be used to gauge client potential. As mentioned above, however, improvement can continue for many thousands and even millions of trials. For this reason, Dunn, (1976) has suggested that Tillman's technique might require an exorbitant amount of practice before performance levels off. Dunn proposed, instead, that the data on the performance of a limited number of trials could be fitted to a regression (or learning curve) equation and that this method could be used to accurately predict client potential. Research by Dunn suggests that this technique does, in fact, have great potential. In addition, learning curves have been successfully used in industrial settings (See Cochran, 1968; or Jordan, 1972) for many years to help determine the adequacy of employee performance and to help gauge production costs.

The term "learning" curve has been used to refer to a graph representing changes in performance over time or trials. Though the changes in performance can be attributed, in part, to learning, variations in the curve also reflect variables other than learning which affect performance (e.g., environmental variables, motivation, etc.). Though these graphs of performance do not necessarily reflect the actual amount of learning that occurs, they do reflect how an individual actually performs, which is the most important aspect. Since the term "learning" curve is widely used in the literature, this study will refer to the graphing of performance (and equations which describe such performance) as a learning curve, with the realization that such curves reflect the effects of many variables.

The advantage of the learning curve approach to evaluating work sample performance is that this method reflects what changes occur in the client's work sample performance during testing. A static process of evaluating the level of functioning, such as using the mean or total production rate, fails to recognize the impact of learning. Two individuals functioning at the same average level on a work sample involving several trials are not necessarily the same. Figure 1 illustrates this point. Client A is actually performing better than Client B during the final trials of the test period and appears to have more potential at the task, but the mean is the same for both clients. This potentially valuable information would be lost if the evaluator were to use a static measure in examining a client. It is not lost, however, when learning curves are used.

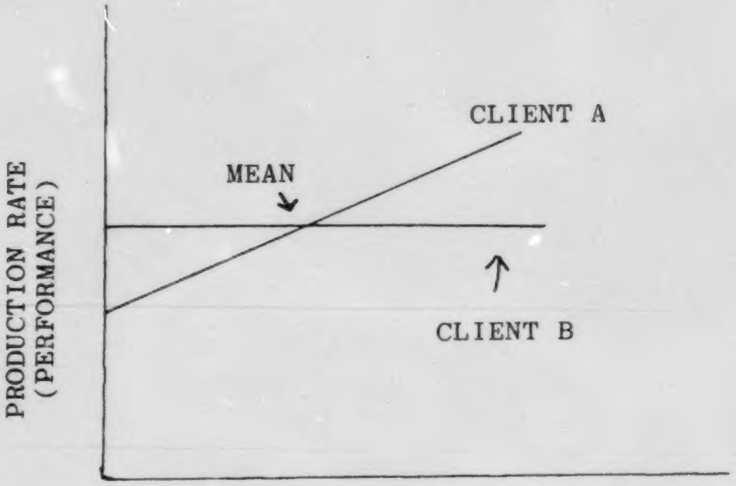

Figure 1. Hypothetical work sample performance curves for two clients with same mean performance level but different potential.

In addition to the increased accuracy about actual performance, this approach has utility for making statements about the client's capacity in selected areas and could serve as a reliable data base for examining the effects of different intervention strategies. For example, with a given learning curve, it is possible to estimate what the client's potential would be given further training. Learning curves may also indicate the level of motivation on a task. For example, if the level of performance at the end of the practice trials were lower than the beginning level, it is suggestive of a loss of motivation or lack of incentive on the task rather than a lack of ability. Comparison of performance changes on several tasks would further increase the ability to understand client motivation and interest as well as performance ability.

A drawback to the use of the learning curve is the fact that the use of this approach would normally increase the work load of vocational evaluators. If an evaluator uses a measure such as the mean production rate, the score is very simple to compute, that is, the total time to complete the task is divided by the number of items completed. More typically, the evaluator would simply compute the number of pieces produced during a set period of time or the total time to complete a set number of items. It is also very easy for evaluators to administer the work sample and obtain the data in such cases. They simply start a timer when the client begins the task and stop the timer when the client is finished. In the interim, the evaluator can be busy with other tasks. This would not be the case, however, if an evaluator were to collect data to be used in calculating a learning curve for a client. In this case, the evaluator would have to constantly monitor the client's performance, recording the amount of time taken to complete each item. Furthermore, the evaluator would then have a more complex analysis of the data to perform. This procedure would, of course, reduce the amount of time the evaluator could spend on other aspects of his/her job or with other clients. Thus, though analysis of performance through generation of learning curves has been advocated for a number of years, few evaluators consistently employ them.

One of the primary purposes of this project is the development of a microprocessing (microcomputing) system that can automatically collect data on work sample performance and subsequently calculate a learning curve using the data which was collected. Such a device would have the advantages of the use of learning curves, which can more accurately reflect a client's present level of functioning and potential, while at the same time not have the disadvantage of increasing the work load of an evaluator. A second purpose of this project involves an attempt to determine the feasibility and utility of employing learning curves in evaluating client potential. A number of questions with regard to the accuracy of predictions that can be made with a learning curve approach, the amount of data that is necessary to make an accurate prediction, and other concerns will be examined in two experiments. In the final phase of this study, an attempt will be made to evaluate the microprocessing system and the learning curve approach in three rehabilitation facilities. The information gathered in this phase of the project should lead to further refinements in the microprocessing system and in the procedures for collecting learning curve data.

7. Objectives

The objectives being addressed in this project are:

1. A review of the literature on learning-curve assessment.

2. The development of a microprocessing system (both hardware and software) that can collect data on work sample performance and use this data to compute learning curves.

3. The evaluation of a number of alternative methods of computing learning curves to determine which is the most accurate under diverse conditions.

4. The determination of whether the performance of clients experiencing rest intervals between practice trials (spaced practice) can be more accurately predicted than the performance of clients experiencing no rest interval between trials (massed practice).

5. The determination of whether the performance of clients who practice on a "complex" work sample can be as accurately predicted as can the performance of clients practicing on a "simple" task.

6. The deployment of the microprocessing system in three rehabilitation facilities to determine the utility of information gained, the practicality of the system, and the likelihood of adoption of the system in similar fashion.

8. Methodology

The primary purpose of this study is the development and testing of a microprocessing device that can automatically collect data on repetitious types of work samples involving motor skills and use learning curves to assess current capacities and project future performance on the tasks. In addition, the study is attempting to determine which of a number of alternative methods (formulas and graphing procedures) most accurately predicts future performance. The project is being conducted in three phases.

Phase I

Instruments. This project is testing the capabilities of a microprocessor to collect and process work-sample data. A C4P microprocessor, manufactured by Ohio Scientific Instruments was chosen for use in the study. This model is programmable in Basic, has both serial and parallel input/output (I/O) ports, and has sufficient memory (8K RAM) to store the data and then compute programs necessary to output it in the desired formats. The device is linked via the parallel I/O ports, to a remote switch which indicates when each trial of a work sample is completed by a client. The microprocessor is programmed to compute the elapsed time to complete each trial and to store this information for further processing once the required number of trials have been completed. A variety of switch types can be interfaced with the device, so it is flexible enough to be used with any work sample. There are two basic types of switches that can be used with this device: (1) those activated by movements in the task, and (2) those activated by the client when each item in the task is completed.

Procedure. The initial phase of this project consisted of the purchasing, modification, and programming of a microprocessor that gathers real time data on work-sample performance. As mentioned above (see Instruments), a C4P microcomputer, manufactured by Ohio Scientific Instruments was selected for use in the study. The device has been modified and programmed so as to be capable of determining the amount of time taken to complete each item (unit) in a work sample, to store these data, and later calculate learning curves using that data.

Also involved in this phase of the project was a review of the learning literature, particularly, that dealing with the use of learning curves in attempting to predict the level of performance at some later point in time. A number of alternative learning curve equations were identified in this review and are being evaluated as to the accuracy with which they can be used to predict performance levels after a given amount of practice at a task. The evaluation of these equations is taking place in Phase 2.

Phase 2

The second phase of this study is currently ongoing and involves conducting two experiments which examine (1) the accuracy that can be attained in terms of predicting client work-sample performance using learning curves, and (2) the identification of the optimal levels of a number of variables which could influence the degree of accuracy of prediction, using learning curves. In addition, these studies will examine the utility of using the microprocessor to collect and analyze work-sample performance data.

Experiment 1. In the initial experiment, 20 clients (10 male, 10 female) from the Vocational Development Center at UW-Stout participated as subjects. These individuals performed 50 repetitions of a work sample (described below) for 5 consecutive work days. The performance data that were collected consisted of the amount of time it took to complete each trial (the complete assembly of one item). These data were used ~~in~~ evaluating several alternative methods of calculating learning curves in terms of the degree to which they accurately predict both the client's level of performance after a given amount of practice trials, and also, the number of trials it would take a client to reach a given criterion level. The criterion level to be used in this study and in the subsequent ones consists of the MTM industrial standard for the task used in the study. Some of the computational formulas and techniques being evaluated in the study include Tillman's (1971) method of graphically plotting the data and extrapolating from it, Dunn's (1976) regression equation approach, at least three learning curve equations used in industry (Cochran, 1968; Hancock, 1971; Jordan, 1966), and the hyperbolic and modified-exponential equations discussed by Mazur and Hastie (1978).

The results of some of the initial analyses performed on the data from this study are discussed below in the section dealing with Current Year's Activities.

Experiment 2. A second experiment will be conducted, again using clients from the VDC as subjects. There are two primary reasons for conducting this study. The first deals with an attempt to determine whether an alternative method of collecting data could result in an equally accurate estimate of client potential at a task using less data than in the first experiment. One of the findings of the first experiment (see discussion of the results in the section on Current Year's Activities) was that an accurate prediction of the Day 5 performance level could not be made using only the data from the client's performance on Day 1. Typically, clients on Day 1 showed an improvement in performance, probably due mostly to learning, and then a decrease in performance proficiency, possibly due to fatigue or boredom. As a result of the drop in performance during the latter part of the practice session, an accurate prediction of the level of performance that would be obtained by Day 5 could not be made using this data. Previous learning research (e.g., Adams, 1953) suggests that speced learning trials (those in which a rest interval occurs between trials) results in higher performance levels than do massed learning trials (those with no rest between trials, as was the procedure in Experiment 1). This may be the case because the individuals undergoing spaced trials do not become as fatigued or, possibly, because the fatigue that they experience dissipates between trials. An examination of the performance of individuals who have experienced spaced learning trials (e.g., Adams, 1953) further suggests that their performance is not only higher than is that of those who experienced massed trials, but may be more predictable as well. It appears that under spaced practice trials, individuals do not display the decrement in performance towards the end of each practice session, as was found in the first experiment. Because these individuals don't show such a decrement, it seems likely that an accurate prediction of performance at some later point in time would be possible using less data than would be necessary for individuals undergoing massed training trials. For this reason, the length of the interval between practice trials will be manipulated in the second experiment. It is expected that less data will be necessary to produce an accurate prediction of Day 5 performance for subjects who experienced spaced practice trials than for those who experienced massed trials.

A second reason for conducting Experiment 2 involves the question of the generalizability of the results of Experiment 1 and of Dunn's (1976) research. In both of those studies, a relatively simple task was performed and it was found that a high degree of predictive accuracy was obtained. The results of these studies do not indicate, however, whether such a high degree of accuracy in prediction could be obtained if clients had been performing on a more complex task. For this reason, the complexity of the work sample task will be manipulated in the second experiment. This experiment will, thus, consist of a 2 x 2 factorial design with either massed or spaced practice trials on a "simple" or "complex" work sample task. Sixty individuals who are undergoing vocational evaluation at the VDC will participate as the subjects. As in the first experiment, the subjects will be required to perform on the work sample for five consecutive work days. A brief pilot study will be conducted in order to determine the most appropriate interval for use in the spaced practice trials procedure and to verify that the tasks do, in fact, differ in complexity.

Phase 3

The final phase of this project will involve field testing the microprocessor in three rehabilitation facilities. The device will be tested in terms of its reliability, the amount it is used, the amount of information evaluators and counselors gain with this device, and the way in which the information gained with the device is used. Such information will be gathered via surveys and interviews. In addition, the instruction booklets which explain the uses and operation of the device will be evaluated in terms of clarity and sufficiency.

Timelines

August, 1979	Continue review of literature and review microprocessor systems.
October, 1979	Microprocessor ordered.
November, 1979	Selection and design of simulated work samples.
March, 1980	Microprocessor received. Complete development of work sample and interface with the mircroprocessor. Program the microprocessor to collect data and test and evaluate the system.
June, 1980	Begin pilot study for Experiment 1.
July, 1980	Begin collecting data for Experiment 1.
September, 1980	Begin writing programs for microcomputer which compute learning curve equations with data from Experiment 1.
November, 1980	Begin Experiment 1 data analyses.
March, 1981	Complete data analyses for Experiment 1 and begin article discussing findings.
April, 1981	Complete article dealing with the findings of Experiment 1 and disseminate. Initiate pilot study for Experiment 2.
May, 1981	Begin collecting data for Experiment 2.
August, 1981	Begin data analyses for Experiment 2.
September, 1981	Complete Experiment 2 data analyses and begin article discussing the results.
November, 1981	Complete article dealing with the results of Experiment 2 and disseminate. Begin Phase 3 demonstrations and further evaluation of the microprocessing system.
February, 1982	Begin initial evaluations of the Phase 3 demonstrations and analyze survey results.
March, 1982	Complete initial drafts of research dissemination products. These include a manual dealing with the computer software and hardware modifications for the microprocessing system, a demonstration report, a review of learning curve prediction techniques, and training modules.

April, 1982	Begin pilot testing of research dissemination products. Coordinate efforts with training staff. Complete Phase 3 tests and incorporate results into final versions of research and training materials.
June, 1982	Complete all project reports.

9. Relevance of the Problem

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

From Figure 2, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, and R-50).

The proposed study is aimed primarily at the improvement of facility services. It could lead to changes in program procedures in both Vocational Evaluation and in Work Adjustment Training. This research seeks to improve the methods and outcomes of initial and continuous assessment of clients' vocational functioning by providing a basis for: (1) improving the assessment of current levels of individual performance, and (2) improving the accuracy of prediction of individual potential from initial measures of performance.

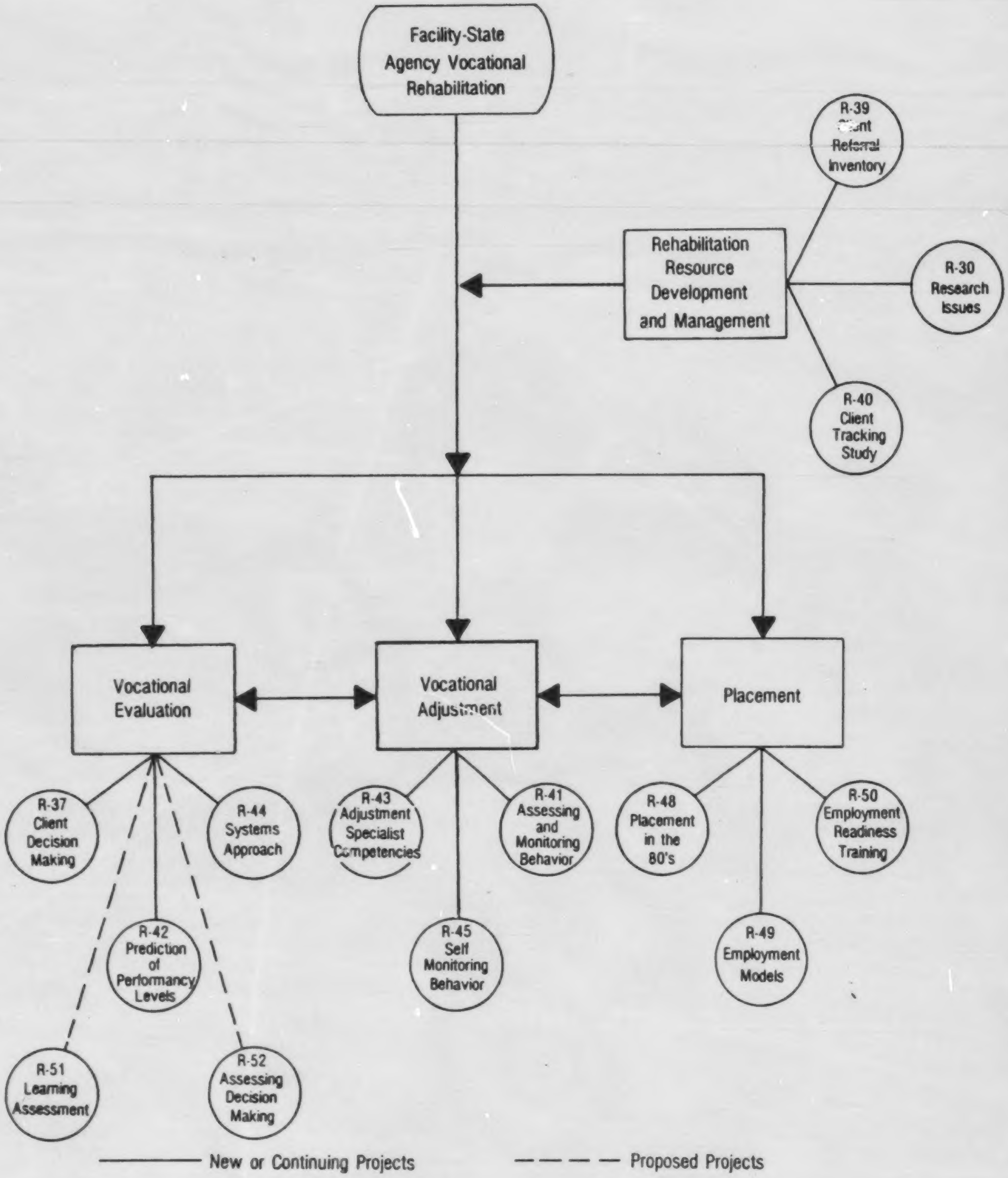
Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 2: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

To Rehabilitation

The project directly relates to the problem of the lack of sufficient knowledge to carry out an adequate evaluation and assessment of severely disabled clients. Those severely disabled persons referred to rehabilitation facilities for vocational assessment as part of the initial selection and planning process are generally characterized by counselor questions relating to their vocational potential and feasibility for services. This project is directed toward improving the accuracy of the work performance based information used to answer these questions.

Secondly, it addresses the question of which one of several alternative prediction equations, developed from initial performance data, would be the most economical and efficient alternative to the provision of lengthy practice periods in the assessment of work performance potential. Such predictions could be useful with any type of real or simulated work task assessemnt procedure, including work samples, workshop job stations, or industrial work sites.

10. Client Characteristics

The total project will involve eighty participants, all of whom will be Vocational Evaluation clients. Voluntary participation on the part of all subjects will be obtained, according to the University of Wisconsin-Stout's and DHEW's policies and procedures on Protection of Human Subjects. All clients who are physically capable of performing on the work sample will be eligible for participation.

11. Current Year's Activities

There have been three major activities undertaken or completed in the current year that are critical to the completion of this research. The first of these involved obtaining, modifying, and programming the microprocessor which is being used to automatically collect and analyze data in this project. The device was modified so that it can be interfaced with any work sample that is being used for data collection. With the selected work sample, modification was relatively simple. It involved attaching a relay switch so that it can function as a buffer between a microswitch that is attached to the work sample, and the parallel input port on the computer. The device works in the following way. When a client completes an item from the work sample that is being used in the study, the item is dropped into a box. This triggers a microswitch in the box, which in turn operates a relay to which it is attached. When the relay closes, the change in its state is noted by the computer, which then calculates the amount of time that has elapsed since the completion of the previous item.

The data collection program that was written for the microcomputer performs several functions. First, it acts as a "real-time" clock by repeatedly performing a series of instructions that take a constant amount of time (1 second) to perform. This aspect of the program was necessary because this computer model does not have a built in real-time clock. Second, the program monitors the state of the microswitch attached to the work sample. This allows the computer to keep track of the performance of the client. When the switch closes, the computer calculates the amount of time that has elapsed since the completion of the previous item by the client. It then stores this information and begins a new timing sequence. Finally, when the client has completed the designated number of items on the task, the computer can output the data that has been collected to an appropriate storage device (e.g., a tape cassette or a disk) for later analysis.

A number of other programs have been written to analyze the data that is being collected in this project. Thus far, five programs have been written which use work-sample performance data to calculate parameters for specific learning-curve equations. These programs also determine the goodness of fit of the calculated learning curves with the obtained data. Still other programs have been written that summarize and graphically plot the data.

The second major activity that was accomplished on this project this year involved conducting an experiment in which work sample performance data was collected on clients at the FDC at UW-Stout. These data were collected from a total of 24 clients. The data from 20 of these subjects (10 male, 10 female) was usable in the data analyses. The data from the remaining clients could not be used because they failed to complete five days of training at the task or, in one case, the data was lost due to an error on the part of a research assistant when transferring the data to computer tape.

The experimental procedure used in this study was described above under the description of Experiment 1 in the Methodology section. The Stout-Eye-Hand-Foot Coordination work sample was used in the study. An MTM analysis on this task indicated that the industrial work standard for completing 50 repetitions of this task would be 10.80 minutes FDC norms, based upon the performance of a group of their clients on this task, indicated that 22.66 minutes or longer was "below average" performance, 14.66 to 22.66 minutes was "average," and below 14.66 minutes was "above average" at the task.

The final activity that has been undertaken on this project this year involved a number of analyses of the data collected in the above experiment. The results of these analyses are discussed below.

The performance times for Day 1 and Day 5 (the first and last days of practice) for each subject are listed in Table 1. It can be seen in the Table that one of the subjects (5%) met the industrial standard (10.80 minutes) on Day 1, but that 11 (55%) of the clients did so on Day 5. This means that if only a single administration of this work sample had been given to the clients in the present study, only one of the clients who demonstrated the ability to perform at a competive industrial rate on Day 5 would have been appropriately classified. In terms of the performance of these clients relative to the VDC norms, 8 clients (40%) performed "above average," 9 clients (45%) were "average," and 3 were below the average rate on Day 1. By Day 5, however, 18 clients (90%) were performing at the "above average" rate and the remaining 2 were at the "average" rate. Thus, there was considerable improvement across the five practice sessions relative to the performance norms established on the VDC clients and relative to the MTM industrial standard.

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TABLE 1

Total Performance Times of Each Client for Days 1 and 5

Client #	Day 1	Day 5	Client #	Day 1	Day 5
1	12.19	8.30	11	16.60	12.82
2	18.89	14.65	12	19.92	14.67
3	24.43	12.23	13	15.24	9.62
4	22.72	14.03	14	13.64	7.14
5	15.40	9.64	15	12.37	8.71
6	13.20	10.19	16	15.50	11.11
7	16.71	10.16	17	12.43	8.57
8	15.03	11.84	18	10.42	9.53
9	15.29	11.42	19	26.83	15.12
10	12.28	8.19	20	12.85	10.67

A 2 (Male vs Female) by 5 (Practice Sessions) repeated measures analysis of variance was used to analyze the performance data. This was done to determine whether there was a significant sex difference in performance on this work sample, as Dunn (1976) had found in his study, and whether performance significantly improved across practice sessions. A summary of this analysis, along with group means, can be found in Table 2. As can be seen in that Table, there was neither a significant interaction involving this factor. It can also be seen in the Table, however, that there was a highly significant effect for Practice Sessions in this study. Thus, the results of this study failed to replicate the sex difference that Dunn found in his study but strongly replicated his finding and others regarding significant increases in performance across practice sessions. It is interesting to speculate as to why there was not a sex difference found in the present study. It may well be the case that prior experience at a task or at similar tasks, based upon sex-role socialization, is the cause of the sex differences in performance found in the Dunn study and in numerous others. On tasks such as the one used in the present study, however, neither sex may have more prior experience at the task and a sex difference would, therefore, not be found. If this analysis is correct, then one would expect that, with practice, many sex differences in work sample performance would disappear.

As stated above, there was a highly significant improvement in performance across practice sessions in the present study. Further analysis of the data indicated that the mean rate of improvement for the clients was 30.68%, with a standard deviation of 10.42%. The smallest amount of improvement was 14% and the greatest was 50%. Thus, if an evaluator were to use a client's performance on this task after only one session of practice as a reliable indicator of the dictator of the client's capability, he/she would be underestimating the client's potential by about 31% on the average. This appears to be a fairly conservative estimate since clients could be expected to improve even more with additional practice at the task.

A further set of analyses that was done on the data from this study involved fitting the data from the first 4 days of practice to each of several different learning-curve equations. These calculations were computed in order to determine (1) which formula produced the closest fit to the obtained data, and (2) which formula would produce the most accurate prediction of the level of performance obtained by the client on the final day of practice (Day 5). Table 3 depicts the results of these analyses. In that Table, it can be seen that all of the equations that were examined were reasonably accurate in predicting the average level of performance on Day 5, based upon the performance levels obtained in the previous four days of practice. None of the equations produced an average error rate higher than 9.64%. The most accurate equation, #1 in the Table, is a three parameter hyperbolic function. Interestingly, this is the same function that Mazur and Hastie (1978) found to be the "best fitting" equation in their study in which they analyzed performance data from a large number of learning studies. Equation number 5 in the Table is the one that Dunn employed in his data analyses. As can be seen, Dunn's equation is one of the least accurate in predicting Day 5 performance level.

TABLE 2

Summary of Analysis of Variance
of Total Times and Group Means

Source	Mean	df	MS	F	p
Sex (S)		1	8.84	.15	.10
Male	12.56				
Female	13.16				
Error b		18	58.69		
Practice (P)		4	79.90	48.33	.001
1	16.10				
2	13.22				
3	12.42				
4	11.66				
5	10.93				
S x P		4	1.75	1.06	.10
Error w		72	1.65		

TABLE 3

Predictive Accuracy of Various Learning-Curve Formulas

Formula	Mean % Error	S.D.	Range(%)
$Y=K\ (\frac{x+c}{x+c+r})$	6.49	5.87	-5.88 to 21.81
$Y=AX^B$	7.45	5.64	-14.86 to 20.86
$Y=\frac{A}{X}+B$	7.89	6,05	-9.09 to 23.79
$Y=AB^X$	7.98	6.33	-6.10 to 22.00
$Y= A + (B\cdot\log X)$	8.02	6.14	-18.60 to 20.45
$Y= A + BC^x$	8.64	7.41	-11.20 to 27.53

The differences in the degree of accuracy in predicting the 5th day's performance level that was found in this study appears, on the surface, to be fairly trivial. The difference becomes more important, however, as the practice session to which one wishes to extrapolate becomes more remote. That is, when instead of trying to predict the performance level that will be obtained after 5 days of practice, one attempts to extrapolate to the level of performance after 25 or 50 days of practice. One effort that is being made to determine the degree of inaccuracy involved in predicting farther into the future than was done in the present study or in Dunn's study, has involved obtaining data from previous research studies (e.g., Siebel, 1963) in which the subject practiced at the task for up to 75 practice sessions. Preliminary analyses of such data suggest that the degree of error made in predicting performance on Day 75 of Siebel's study, by fitting learning curves to the data from Days 1 to 10, can be as high as 40% for an individual subject. These findings are only preliminary, however, since the accuracy of only two of the learning curves has been examined.

One concern of interest in the present study was the question of whether or not the performance level that was eventually obtained on Day 5 of training could be accurately predicted using only the response times for each of the 50 repetitions performed on Day 1. It would obviously be highly beneficial if an accurate prediction could be made using only this data since there would be no need to collect any more data than is presently done in most situations. For this reason, the scores representing performance on Day 1 for each subject were fitted to a learning-curve equation ($Y = a + bc$). The parameter values obtained for each subject were then used to estimate that subject's Day performance level. This estimate was then compared to the actual performance level that was obtained on Day 5. The mean percentage of error in predicting the Day 5 performance level using the data from Day 1 was 47.45%, with a standard deviation of 21.84%. Thus, the accuracy of prediction using this data was only slightly better than the estimate using the total time for Day 1 (see above). Several other analyses, using other learning curve formulas, are still to be done with this data. An examination of the data suggests that they will not be much more accurate than the formula that was employed above, however.

A final series of analyses of the data from the present study involved determining the degree of correlation between the work-sample performance of the clients on Day 1 and Day 5, Day 4 and Day 5, and between the predicted level of performance on Day 5 (using several different learning-curve equations) and the obtained level of performance on Day 5. The results of these analyses indicated that the rank-order correlation (RHO) between Day 1 and Day 5 was .81; between Day 4 and Day 5 was .966; and the correlations between the predicted and obtained data points, using several different formulas ranged from .944 to .988. Thus, there is a considerable gain in the degree of correlation when using the performance level on Day 4 or the level of performance predicted by any of the learning-curve equations. One could, therefore, use the Day 4 performance level as a highly accurate estimate of a client's position in the distribution on Day 5. This method would probably be much less accurate in "long-range" prediction, than using the predicted score obtained by computing learning curves to estimate either a client's rank-order or absolute performance level, however. That is, the learning-curve approach should provide a better estimate of performance and rank-order on Day 75 than would the level of performance on Day 4. This assumption needs to be verified, of course, through further research.

12. Dissemination of Findings

Findings of the project will be disseminated via the following means:

Center Research Reports

Results of all data analyses will be disseminated in specific Center research reports. These will be sent to all state agencies, leaders within the field of facilities and Vocational Evaluation, and abstracting publications.

Journal Publications

Significant findings and implications will be prepared for journal publication and submitted to, as appropriate, the Vocational Evaluation and Work Adjustment Bulletin, Rehabilitation Counseling Bulletin, and Journal of Applied Rehabilitation Counseling.

Training and Implementation Reports

These would include the RTC Connection and training manuals. One manual will include instructions on the purchase, modification, and programming of microprocessing equipment so facilities could purchase equipment and gain the capabilities of automated data collection and the advantages of the learning curve approach to assessment. An additional manual will explain computational procedures for learning curves using a hand calculator.

13. Utilization of Findings

By Rehabilitation

The findings of this project can be used to increase the accuracy of performance information generated in facility-based and state-operated Vocational Evaluation programs regarding client vocational potential. It can do so by developing and demonstrating a device which will automatically collect data and determine which specific learning-curve equation is most accurate. The availability of equipment which can automatically compute learning curves should lead to an increase in the adoption of this technique and, thus, increase the amount and accuracy of information known about a client.

By Center

This project is an initial and an integral step in a programmatic line of research dealing with client selection and rehabilitation planning. This issue is of significant magnitude and importance to problems relating to the use of performance based information in eligibility determination and client service planning. This can be used to refine the focus of the Center's programmatic research line. Additionally, the project will deal with some methodological and measurement issues inherent in assessing client work performance in any setting, including actual job settings. These issues need to be resolved before the Center can undertake additional research in these areas.

14. Policy, Program, and Practice Changes

This project has implications primarily for program and practice changes. It also has bearing upon recent issues surrounding the use of appropriate, non-discriminatory assessment procedures with special groups, whose results have impact on employment and other decision-making processes. The project will specifically attempt to demonstrate the utility and efficiency of an automated data collector and analyzer, and the utility of the use of learning curves in assessing Vocational Evaluation clients.

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RESEARCH PROJECT REPORT Project No. R-44

1. Title Vocational Evaluation Services: A Systems Approach

2. Project Status (Check):
Proposed ___ New ___ Continuing x Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 9/79 mo/yr Expected Completion: 8/82 mo/yr Completed: ______ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Thomas Czerlinsky, Ph.D.	Psychology	50	45
Charles Coker, Ph.D.	Psychology	5	5
Vacancy	Computer Specialist	5	10
Clerical		10	10

5. Financial Data:
Estimated Cost From Beginning to End of Project: 129,260

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	19,300	21,001	2,616	2,232			21,916	23,233
Supplies and Other Expenses	4,577	3,116					4,577	3,116
Travel	1,725	1,377					1,725	1,377
Equipment								
Indirect Costs Allowed by DE	3,840	3,824	8,015	6,957			11,855	10,781
Total	29,442	29,318	10,631	9,189			40,073	38,507
Percent	73.5	76.1	26.5	23.9			100	100

*For report year and continuation year

6. Statement of the Problem

Purpose

In providing Vocational Evaluation services in rehabilitation settings today, there appears to be a lack of consideration given to the implementation of the services, evaluating individual outcomes, and revising the process as a result of evaluation. Thus, the process or procedure for providing Vocational Evaluation services for rehabilitation clients is usually a vague and unstructured attempt to diagnose and assess the client. This process is conceptualized by most facilities in terms of segmented activities available for the client, such as work sample evaluation, situational assessment, job tryout, job analysis, etc. All of these methods have emerged in the past decade, and have contributed to the Vocational Evaluation process.

With these many relatively new technological developments, it is questionable whether the field is cognizant of methods, models, or for that matter, patterns of activities that exist under the aegis of Vocational (Work) Evaluation services. Sankovsky's (1969) point that there are, perhaps, as many approaches or methods of delivery as there are Vocational Evaluation units, may still be applicable today.

Historically, rehabilitation has been concerned with the development of technologies or approaches that evaluators could utilize in Vocational Evaluation. Today, the field of rehabilitation is interested in seeking answers to: (1) What constitutes Vocational Evaluation, as practiced in the field; (2) How are Vocational Evaluation activities, technologies, or components arranged and related; and (3) What are the alternative approaches to the delivery of Vocational Evaluation services to the disabled? These are basic yet complex questions, and for clients to receive maximum benefits from Vocational Evaluation it is essential that answers to these questions be sought.

A full description of Vocational Evaluation services can encompass three aspects. First, there is pre-process or input information. This addresses what exists before the actual process of evaluation takes place, which may influence the ultimate outcome of the evaluation. Information in this category would include descriptions of facilities, clients, and evaluators involved in the conduct of Vocational Evaluation programs. The second aspect of Vocational Evaluation services may be called process information, which involves descriptions of what takes place during the actual process of Vocational Evaluation. Information of this type would be related to questions 1 and 2, listed in the previous paragraph, and answers to these questions are indeed essential to understand existing practices, and for formulating recommendations for improvements. The third aspect is concerned with outcome information. The question here is not what is being done, but what is the result of what is being done? That is, what is the product of the evaluation? An additional aspect of the research will be to examine the outcome expectations of Vocational Evaluation from the perspectives of evaluators, rehabilitation counselors, adjustment specialists, clients, and others.

The purpose of this project will be to obtain a cogent description(s) of the Vocational Evaluation process(es). Systems analysis will be the strategy used to describe the process(es) practiced in a variety of different rehabilitation facilities. Systems analysis will be used, as it provides a framework within which Vocational Evaluation services can be defined in terms of components, sequences, activities and relationships.

Introduction

During recent years, Vocational Evaluation has become an important assessment and planning service for many individuals who encounter difficulty in obtaining and maintaining gainful employment. It is a service which developed and evolved within a rehabilitation context, and has become recognized as relevant for many clients in their rehabilitation programs. At present, it is uncertain whether these services are governed by a shared and cohesive body of knowledge, technologies, and philosophy, since Vocational Evaluation has borrowed extensively from other fields. Psychology, industrial education, vocational education, medicine, and rehabilitation counseling have all contributed to some extent to the development of Vocational Evaluation (Pruitt, 1977). For example, Moed (1960) and Neff (1968) conceptualized five approaches employed by vocational evaluators in the evaluation process during the sixties. These approaches included: (1) the psychological testing approach; (2) the job analysis approach; (3) the work sample approach; (4) the situational approach; and (5) the job tryout approach.

The existence of such a variety of technologies suggests that vocational evaluators have emphasized the use of differential methodology and criteria to perform their work. To what extent these various technologies are used by evaluators within a facility remains unknown. Thus, whether or not Vocational Evaluation techniques rendered are similar across all facilities is questioned. Furthermore, the relationships of these technologies to each other and to other program services that exist within a facility are also unidentified at this time.

In addition to the identification of Vocational Evaluation services, it is further important to consider the relationship of Vocational Evaluation to total program outcomes. As James (1969) indicated, evaluation should be directed at the total program, since the relationship among entities has an impact on outcomes. Thus, not only is it essential to identify what constitutes Vocational Evaluation services, but it is also important to understand how Vocational Evaluation services relate to other program services, how they are derived from decisions and activities at the management and staff level, and the effects these services have on clients' overall rehabilitation.

Indeed, to study a service such as Vocational Evaluation is a complex process, involving pre-process information, process information, and outcome information. In order to systematically describe what constitutes Vocational Evaluation services in a rehabilitation facility, a conceptual framework or technique for assessing is essential. Review of the literature identified various Vocational Evaluation models for the disabled (Nadolsky, 1971; Couch, 1971; and Neff, 1968), but did not reveal what is being practiced. After review of an evaluation approach (Menz, 1974a,b; Baptista, et al., 1972) and systems approach (Churchman, 1971; Lebaron and Peterson, 1970) for assessing what exists and is practiced in the field, the systems approach was selected. The rationale for electing to use the systems approach was that it builds models describing program structures, functions, and goals rather than comparing selected variables which denote the evaluation approach (Harrison. 1976).

The special meaning of the term "systems approach" emerged during and after World War II as a result of research development in problem solving, efficiency analysis, and most significantly, the development of complex man-machine systems. Since World War II, this approach has been used with increasing sophistication and it has rapidly expanded into new areas. Its military, industrial, and business applications are enormous. These include defense and communication systems, aerodynamics and space technology, industrial production, data retrieval and information processing, and management and logistic systems.

According to Bennett and Weisinger (1974), utilization of the systems approach takes into consideration specific parts of the system in terms of input analysis, process evaluation, and outcome evaluation. These parts are defined as follows:

1. Input analysis - the study of the resources (persons, money, and material) used by the program to accomplish its goal.
2. Process evaluation - the study of a combination of program operations and techniques used by a program to accomplish its goal.
3. Outcome evaluation - the study of the results of a program's activities (p. 6).

As outlined above, the systems approach implies that the system's goal(s) be known. As Mager (1962) implies, if clearly defined goals are lacking, then it is impossible to evaluate a course or program efficiently and there is no sound basis for selecting appropriate staff, equipment, materials, and activities. Thus, the overall management of an evaluation program cannot be devised to accomplish the goals of evaluation unless they are stated.

For the purposes of this study, it will be assumed that Vocational Evaluation has a broad goal, but that goal may be achieved through various system components. That is, the input variables, process variables, and outcome variables may not be identical, but would relate to the overall goal of evaluation. The goals of evaluation are, to a certain extent, found in a widely quoted definition of evaluation (Tenth Institute on Rehabilitation Services, 1972):

> *"Vocational (work) Evaluation is a comprehensive process that utilizes work, real or simulated, as the focal point for assessment and vocational development. Vocational (work) Evaluation incorporates medical, psychological, social, vocational, educational, cultural, and economic data to assist in the attainment of the goals of the evaluative process."*

Inherent in the above definition is that the goals of Vocational Evaluation are an assessment of clients' present and potential level of vocational functioning and an enhancement of clients' vocational development. It will be the purpose of this research to examine how well facilities and VR state agencies have devised the input, process, and outcome components of the Vocational Evaluation system to meet these goals.

The systems approach, then, is presently intended to be used as a strategy for observing and describing evaluation services from a total or all encompassing point of view. This systematic approach may not result in thoroughly describing all existing practices, but should serve as a guide for defining primary models of Vocational Evaluation. This will be obtained by transforming the observable input, process, and outcome characteristics of each facility into common paths which suggest models.

7. Objectives

The purpose of this project is to identify the alternative conceptual models for Vocational Evaluation services that are being rendered to vocational rehabilitation clients, and to evaluate these models in view of the goals of evaluation services (mentioned above) and their objectives (the expectations that evaluators have of this process). This will be accomplished by the following steps.

1. Identify critical characteristics of accredited rehabilitation facilities providing Vocational Evaluation services to disabled clients nationally.
2. Identify "model" facilities providing Vocational Evaluation services to participate as research sites.
3. Observe and identify at each research site the variables of evaluation programs that relate to input, process, and outcome information.
4. Obtain from evaluators at each research site their objectives of Vocational Evaluation - what their expectations are of the evaluation process.
5. Obtain outcome information which will include expectation from evaluation services from others involved in this process; clients, vocational rehabilitation counselors and, as appropriate, professionals from the specialties of placement, vocational adjustment, skill training, vocational training, and sheltered workshops.

8. Methodology

Phase I

Subjects. Individuals will not be focused upon. Rather, accredited rehabilitation facilities providing services to VR agencies will be the primary participants. Each facility offering accredited services will be asked to complete a survey questionnaire. Of those responding facilities which offer accredited Vocational (work) Evaluation Services on programs, 20 representative programs will be selected for further in-depth investigation, including site visits.

Instruments. The primary instrument used in this phase will be a national survey to be mailed to each accredited facility in the country (see Appendix A). A list of variables deemed important for selection of facilities to serve as research sites will be identified and assessed in the survey. It will seek information with respect to: (1) overall facility characteristics; (2) client characteristics; (3) client flow patterns; (4) descriptions of evaluations conducted; (5) interaction of faciltiy services; (6) identification of program and client outcomes; (7) identification of evaluation objectives; and (8) willingness to participate in Phase II of the research project.

Procedures. A nationwide list of accredited rehabilitation facilities, state or privately operated, will be compiled. These facilities will be surveyed through the mail as to the identity of their facility and program. Facilities representing various organizational and program variables will be identified from the returned surveys and designated as research sites. Possible selection criterion for the research sites will include, but not be limited to, the following:

1. Urban and rural programs and representation from different areas of the country.
2. Facilities serving diverse types of handicapping conditions.
3. Facilities serving selected minority groups (Hispanic, Indian, Black, etc.).
4. Facilities representing a range of size and funding levels.
5. Facilities representing various Vocational Evaluation styles.

Review of the information obtained in the survey should provide a basis for final selection of approximately 20 sites. The facilities will be contacted and initial arrangements made for the site visits. A liaison person for the facility will be identified, and arrangements made for the site reviewer to obtain access to the records and data so that the required information can be collected, and to determine who will be interviewed, who will be observed, and the length of the visit.

Phase II

Subjects. In this Phase, the participants will be those 20 selected facilities. In addition to interviewing various key persons within each facility, interviews will also be conducted with others who utilize Vocational Evaluation or their results such as clients, vocational rehabilitation counselors, adjustment specialists and personnel in placement, skill training, vocational training, etc., as appropriate.

Instruments. This Phase of the research project will assess each selected facility using the systems approach. An instrument will be developed for site reviewers to systematically collect the information. The information will be obtained from (as appropriate) records of the facility and personal interviews with key persons within a facility with most knowledge of any particular content area. Each assessment will involve procedures which will obtain in-depth information on each facility relative to:

1. Input variables - this will include descriptions of the clients, descriptions of referral sources, and a description of the facility itself.

2. Process variables - descriptions of the Vocational Evaluation process itself, including time, methods, and costs.

3. Outcome variables - included will be descriptions of what the results of the evaluations are, such as status, job goals, next service clients received, and counselor use of evaluative recommendations.

The site reviewer will also assess program and evaluator objectives, and how evaluators determine meeting their objectives. Included will be both immediate and long-term objectives for both the evaluation program and the clients. In addition, the expectations of evaluation services will also be assessed from clients, counselors, and professionals representing the various specialties mentioned above, as well as an assessment of how the evaluation services meet their expectations.

Procedures. Each of the 20 facilities selected as research sites will be investigated to collect data that will be relevant for the systems approach. Data will be gathered from the records of each facility by personal interview and by direct observation. An RTC staff member will discuss the purpose and intent of the site visit with each facility liaison person (probably the director). The basic itinerary will be determined and appropriate facility staff will be scheduled for interviewing. It is likely that each evaluation program will be organized somewhat differently, so the data acquisition process will, therefore, focus on three categories of information:

1. Core: Questions asked of all programs regardless of how they are structured.

2. Optional: Questions that may be covered, depending upon the facility's structure.

3. Unique: Questions appropriate to only one area or person.

In order to look systematically at these programs, an overall framework consisting of major content areas will be used to obtain information for each of the categories. Four content areas have been identified as core information for facilities as delineated below.

I. Input Information

A. External Input

1. Clients: This will include assessments of clients' vocational and functional capacities prior to their receiving evaluation services; the number of clients receiving evaluation services; the characteristics of clients in terms of age, sex, type of disability, and severity of disability; how wide a geographic area the clients come from; how many clients of various disabilities have received evaluation services in the past; and the financial support the clients receive.

2. Referral sources: This section will include a description of the sources referring clients for evaluation. It will describe the type of sources, sizes of the sources, and funding of the sources. Also assessed will be specific services within facilities that may have referred clients for evaluation services.

B. Internal Input

1. Facility: This area of information will collect data concerning the facility within which the evaluation services are provided. Areas assessed will include the type, size, staffing, and funding of the facility; its overall purpose or mission; information about its history; what other services exist within the facility, and are provided to what types of clients; what other services exist (significant other programs, employer programs) that do not directly deal with clients but may benefit them.

II. Process Information

Information in this category will attempt a full description of the Vocational Evaluation services, and which specific aspects are utilized with what specific clients. Included will be: a description of the evaluators, including their number, their education, their years of relevant experience, and the caseload of each; a description of the evaluations, such as how long evaluations last, what methods are used in the conduct of the evaluation, the costs of the evaluations; where, in the course of services provided to a client, the evaluation process falls; what other services concurrent with evaluation the clients receive; and what information evaluators typically utilize in conducting their evaluations.

III. Outcome Information

Information under this category will be geared toward an assessment of the results or outcome of the evaluation. This will include areas such as status, job recommendations, and recommendations for further services. Included will be the expectations from the evaluation services by clients, counselors, and specialists from other areas who may be effected by the outcome of the evaluation services. Also assessed will be how evaluators and others feel the program meets its objectives.

IV. Objectives

This aspect will obtain information about the objectives of the evaluation program, obtained from key individuals within each facility and from the evaluators. Included will be an assessment of the evaluation program's immediate realistic objectives (both for the program and for the clients), long-term realistic objectives, and ideal objectives (those that evaluators and the program could strive for if the system were open to revisions and modifications).

Data Analysis

Information collected on each research site in Phase II will be analyzed by path analysis to identify structures among the various input, process, and output variables. Path analysis deals with all possible patterns of relationships among variables. Path analysis can be reflected as a path diagram (road map). Path diagrams are the qualitative representations of a set of structural equations relating to the variables under consideration. The structural equations implied by a path diagram are all linear equations. The path method is not so much concerned with prediction concerning the interpretation of the relationships between the variables, as it is with constructing an optimal structure compatible with the observed data (Li, 1975). The various models of evaluation services derived from this method can then be utilized to answer questions such as: What models of evaluation services best approach their objectives with what types of clients?

Timelines

The projected three year timeline for project activities is as follows:

September, 1979	Fill staff vacancy.
October, 1979 - November 1979	Review project design.
December, 1979	Receive in-house approval of research design.
January, 1980 - May, 1980	Identify facilities to be contacted for Phase I. Design national survey. Prepare Progress Report.

June, 1980	In-house review of survey.
July, 1980 - September, 1980	Pilot survey forms for Phase I and make necessary changes.
October, 1980 - December, 1980	Conduct mail survey of facilities (Phase I).
January, 1981 - February, 1981	Conduct follow-up mailing to non-responders (Phase I). Prepare Progress Report.
March, 1981	Initiate data analysis of returned surveys.
April, 1981 - May, 1981	Develop instrument for conducting in-depth investigations of research sites (Phase II).
June, 1981 - July, 1981	Complete data analysis of mailed survey of Phase I and prepare written report. Identify research sites for Phase II.
August, 1981 - September, 1981	Pilot instruments for conducting Phase II, and revise as deemed appropriate.
October, 1981 - January, 1982	Conduct site visits to facilities to collect data for Phase II.
February, 1982 - April, 1982	Analyze data pertaining to facilities (Phase II). Prepare Progress Report
May, 1982 - June 1982	Prepare written report of Phase II.
July, 1982 - August, 1982	Complete and disseminate the final report.

9. Relevance of the Problem

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individuals vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

From Figure 1, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, R-50).

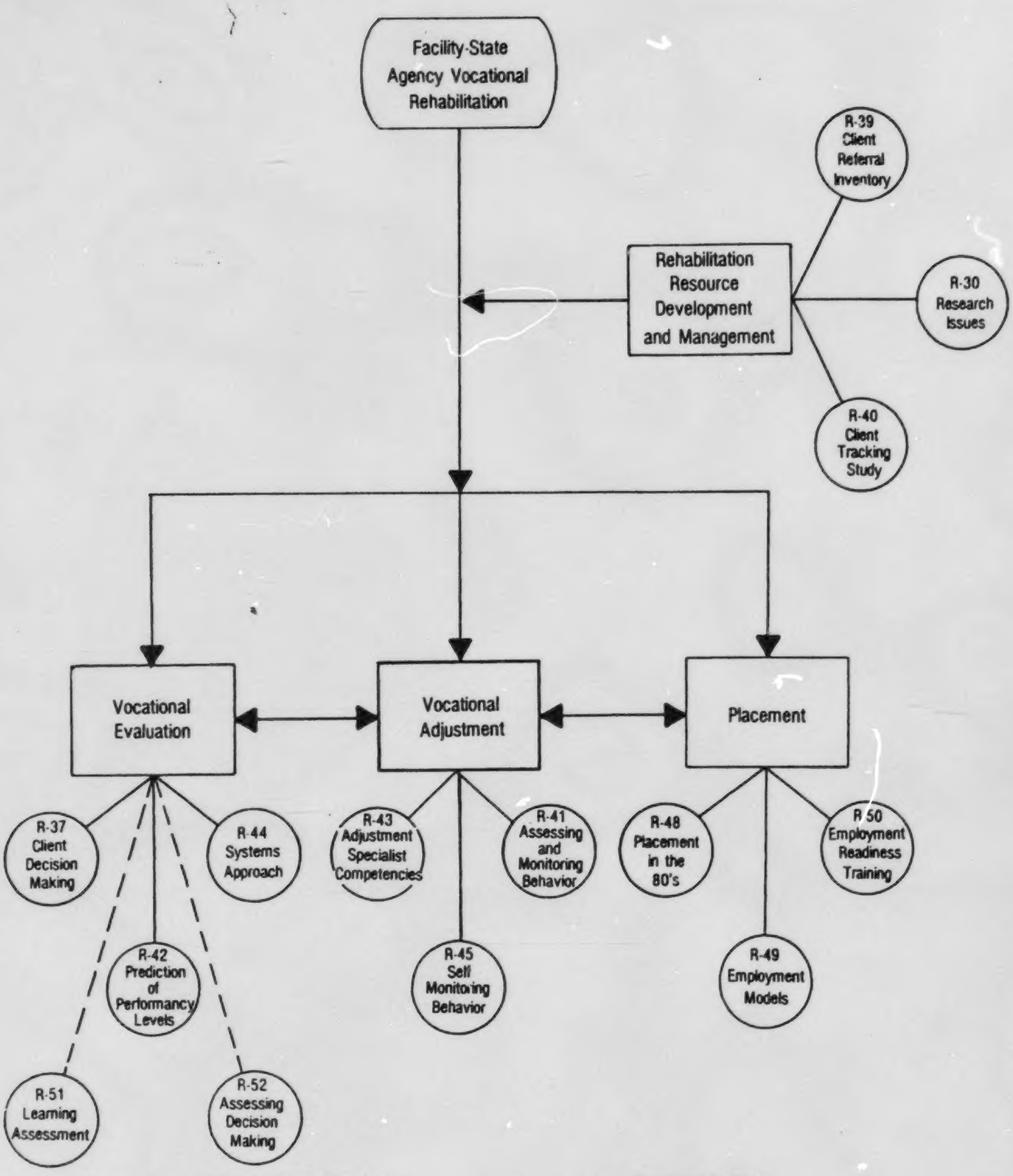
This project relates primarily to the Center's emphasis on the Improvement of Facility Services, especially Vocational Evaluation. It will attempt to systematically describe the various Vocational Evaluation services that are being provided by rehabilitation facilities across the nation, in terms of input, process, and outcome information. Also, it will attempt to identify both realistic and ideal goals of evaluation services from the viewpoint of vocational evaluators, from the viewpoint of clients, and from the viewpoint of other rehabilitation professionals who are concerned with client outcome.

To Rehabilitation

As noted earlier, there is a significant knowledge gap related to what techniques, technologies, activities, etc., comprise Vocational Evaluation services, and what the realistic and ultimate objectives of these services may be. The results of this project will likely indicate alternative conceptual models of Vocational Evaluation services that currently exist in the country, and these will be viewed in light of the objectives of evaluation services that will be determined in this study. Knowledge of what variables contribute most to adequately serving specific client characteristics will aid in improving services to clients. This information, in turn, should provide evaluation personnel with information on the relationships of separate components, processes, and the total evaluation program in attaining the program's intended effects upon clients, to the betterment of program management and to the improvement of the quality of evaluation services. Thus, the project will provide guidance in determining which overall evaluation components need additional study or consideration. The empirical models derived from the project can possibly serve as a basis of comparison with other rehabilitation programs or for development of new evaluation programs.

10. Client Characteristics

Clients will only be directly involved as subjects in Phase II. They will be selected from the various facilities offering Vocational Evaluation services, and they will be chosen from among those clients who are currently receiving or have recently completed evaluation services.


Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models

——— New or Continuing Projects — — — — Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

11. Current Year's Activities

During the current project year, activities have been directed toward the first phase of this project. This has involved developing the pool of items for the national survey, piloting the instrument, conducting the survey, and beginning the data analyses.

Development of Questionnaire. A pool of items was developed which was intended to tap the seven domains outlined previously in the Methodology section. This pool of items was then discussed with a number of professionals from vocational rehabilitation, including persons with particular expertise and knowledge in Vocational Evaluation, CARF accreditation methods, and survey research methods. This resulted in a number of revisions in the item pool.

Then, a preliminary questionnaire was developed and field tested. This was carried out at five facilities in Wisconsin and Minnesota. On the basis of the comments and criticisms received, a final version of the survey was developed.

Phase I Survey Instrument. The survey questionnaire itself is a five page instrument, and is contained in Appendix A. It is comprised of three sections: I. General Facility Characteristics; II. Vocational/Work Evaluation Program/ Service; III. Reactions to Survey.

Categories included under Section I are as follows:

A. Clients served in total facility services/programs.

B. Sources of referral.

C. Fiscal resources of facility.

D. General staffing of facility.

E. Facility's accreditation and records.

Section II was comprised of five categories of information directed toward Vocational Evaluation services:

A. Client intake information.

B. Staffing of service programs.

C. Technologies used in the Vocational Evaluation.

D. Service characteristics.

E. Client exit information and recommendations.

The last Section (III) was basically to obtain the needed consent for conducting Phase II of this project.

The questionnaire itself is quite comprehensive, and time for completion depends, to a large extent, on how available the requested information is in the records of the facility. Time for completion appears to be approximately from one to five hours.

Facilities Surveyed. In the beginning of December, 1980, the survey was sent to 921 facilities nationwide. This sample represents the complete population of CARF accredited facilities. All 921 facilities were accredited in one or more of the following areas: physical restoration, personal and social development, vocational development, sheltered employment, work activity, speech pathology, and audiology. Five hundred and fifty four (554) of these facilities were accredited in vocational development, and this subset of facilities comprises the potential sample to be utilized in Phase II. Although Phase II will only consider facilities that offer accredited Vocational Evaluation services, the results of Phase I will allow some selected comparisons (in terms of client and facility characteristics) between vocationally oriented and nonvocationally oriented rehabilitation facilities.

Responses to Date. The first mailing of the survey resulted in a return of 149 questionnaires, for a rate of 16%. Of these, approximately 90% are adequately completed to yield valid data for this project. At the end of January, 1981, a second mailing was dispatched to the nonresponders of the first mailing, in an effort to increase the return rate for the data base to be used in Phase II.

Preliminary Data Analyses. Some analyses have been initiated, based on the 149 returned surveys. These resulted in summary statistics about the types of clients served by the responding facilities. The following areas were addressed: number of clients served by facilities, types of disabilities served, age and education of clients served, and skill training of clients upon entry into facilities. These are the survey items IA1, IA2, IA4, IA5, and IA6. There was great diversity in the number of clients each facility served during the last fiscal year, ranging from 18 clients to 13,722 clients. The facilities served a total of 89,716 clients, and the average client load during the last fiscal year was 610.

Tabulations of primary disabilities of clients served by these facilities are presented in Table I. All disabilities addressed in item IA2 were served, but the percentages varied greatly. By far, the most prevalent disability served by this sample of facilities was mental retardation, followed next by mental illness and psychiatric disorders. Least common was drug addiction. In terms of multiple disabilities, the data showed that almost half (44.1%) of the clients were judged as having more than one disability. Age and education of clients are shown in Table II and III, respectively. Age data showed that the majority of clients were in their early career years (25-40), with the percentages dropping off fairly symmetrically on either side of this age group. In terms of education, the results (Table III) showed that over half (54%) of the clients did not complete high school. Most clients had no basic skill training at entry into facility, as shown in Table IV.

One other piece of information was also collected, which concerned how many facilities had consented to participate in the second phase of this project. Out of the 149 returns, 54% (or 81 facilities) have consented to participate in Phase II.

Table I

Primary Disabilities of Clients Served

	Primary Disability	% of Clients Across all Facilities*
1.	Mentally Retarded	44.38
2.	Mental Illness, Psychiatric Disorders	13.09
3.	Orthopedic, Musculo-Skeletal, MS, MD, Stroke	8.72
4.	Emotionally Disturbed	6.34
5.	Learning Disabilities, Developmentally Delayed	4.20
6.	Deaf, Hearing Problems	3.68
7.	Cerebral Palsy	3.27
8.	Epileptic	2.84
9.	Other (nonlisted disabilities)	2.57
10.	Neurological	2.48
11.	Speech Defects, Laryngectomy	2.27
12.	Elderly, Aging	1.75
13.	Blindness, Partial Blindness	1.72
14.	Socially Deprived	1.69
15.	Alcoholism	1.65
16.	Spinal Cord Injuries	1.64
17.	Amputations	.99
18.	Public Offender	.96
19.	Cardiac	.91
20.	Arthritis	.83
21.	Cirulatory, Lung, Tuberculosis	.74
22.	Drug Addiction	.65

* Listed in order of decreasing prevalence. Total is slightly greater than 100%, as some facilities indicated more than 1 primary disability for some clients.

Table II

Age of Clients Served

	Age Category	% of Clients
1.	High school age or below (up to 18)	10.2
2.	Late teens to mid-twenties (19-24)	24.3
3.	Early career age (25-40)	41.1
4.	Late career age (41-60)	18.3
5.	Above 60	6.0

Table III

Education of Clients Served

Education Categories	% of Clients
1. Less than high school education	54.0
2. High school education or GED	20.7
3. Special education diploma	19.3
4. Some college or post secondary	4.1
5. College graduate	1.7

Table IV

Skill Training of Clients at Entry Into Facility

Types of Training	% of Clients
1. Skill Training (OJT)	4.8
2. Apprenticeships	1.2
3. Vocational/Technical Studies	8.0
4. None	85.0

On the whole, these preliminary analyses suggest that the facilities responding are not atypical in terms of the clients they serve. In Project R-40 "Facility Services-A Tracking Study," the most prevalent disability group had a psychological disability, with the next most common category being orthopedic. The present data shows the same pattern. The patterns were also found to be similar to R-40 on age and education of clients. These results suggest that responding facilities appear to be representative, at least on the variables mentioned, which should give a good base for selecting facilities for Phase II.

12. Dissemination of Findings

All documents will be made available through the RTC. Formal dissemination activities of the project's findings will principally involve written reports, summaries, and papers. Copies of reports will be sent to participants in the study who have expressed an interest in receiving such results, as well as to participating facilities that served as research sites. Presentations will be made at national and regional professional conferences of the National Rehabilitation Association, the Vocational Evaluation and Work Adjustment Association, the American Personnel and Guidance Association, and the Association of Rehabilitation Facilities. Findings will be, furthermore, integrated and available in the training program of the RTC. Finally, through consultation with rehabilitation professionals, dissemination of findings are expected to be advanced.

13. Utilization of Findings

The project will produce reports and documents which are of direct use to vocational evaluators, facility administrators and other decision-makers in Vocational Evaluation facilities. Other target populations will be VR policy makers (state, regional, federal) responsible for effective utilization of facility services for the disabled. Relevant interest groups include ARF (American Rehabilitation Facilities), CARF (Council on Accreditation of Rehabilitation Facilities), CSAVR (Council of State Administrators of Vocational Rehabilitation), and VEWAA (Vocational Evaluation and Work Adjustment Association). It is anticipated that the project's findings will assist evaluators and facility decision-makers in the improvement and conduct of Vocational Evaluation services. Client advocacy groups, such as ACCD (American Coalition of Citizens for Disabilities) will also receive the project's final report.

It is further anticipated that the information gathered in this study will also serve as a basis of further research on the practice and improvement of Vocational Evaluation services.

14. Policy, Program, and Practice Changes

This project will provide possible models for monitoring and observing Vocational Evaluation services used in rehabilitation facilities. Knowledge of input, process, and outcome variables that most adequately meet the particular needs of clients should impact on decisions of program development at the state and facility level. Identification of Vocational Evaluation services should offer facility personnel a better and more efficient operational structure.

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APPENDIX A

Survey Questionnaire for Phase I

What is the last fiscal year you are using as your reference for this Questionnaire?

From ___/___/___ to ___/___/___
mo da yr mo da yr

I. GENERAL FACILITY CHARACTERISTICS

A. Clients Served In Facility Services/Programs

1. Client load in last fiscal year:

	No. of Clients
a. Total clients served in fiscal year	
b. Average number clients served each day	
c. Average number of days a client was served	

2. Clients' primary disabilities:

Primary Disability	Clients
a. Alcoholism	
b. Drug Addiction	
c. Spinal Cord Injuries	
d. Arthritis	
e. Amputations	
f. Blindness, Partial Blindness	
g. Deaf, Hearing Problems	
h. Emotionally Disturbed	
i. Mental Illness, Psychiatric Disorders	
j. Mentally Retarded	
k. Public Offender	
l. Orthopedic, Musclo-Skeletal, MS, MD, Stroke	
m. Cerebral Palsy	
n. Epileptic	
o. Speech Defects, Laryngectomy	
p. Socially Deprived	
q. Elderly, Aging	
r. Neurological	
s. Cardiac	
t. Circulatory, Lung, Tuberculosis	
u. Learning Disabilities, Developmentally Delayed	
v. Other (Specify) ______________	

Total percent of all clients with multiple disabilities	

3. Sex of clients:

	Clients
a. Males	
b. Females	

4. Age of clients:

	Clients
a. High school age or below (up to 18)	
b. Late teens to mid twenties (19-24)	
c. Early career age (25-40)	
d. Late career age (41-60)	
e. Above 60	

5. Highest basic education completed by clients at entry into facility:

	Clients
a. Less than high school education	
b. High school education or GED	
c. Special education diploma	
d. Some college or post-secondary	
e. College graduate	

6. Basic skill training completed by clients at entry into facility:

	Clients
a. Skill training (OJT)	
b. Apprenticeships	
c. Vocational/technical studies	
d. None	

7. Ethnic background of clients:

	Clients
a. Puerto Rican	
b. American Indian	
c. Asian American	
d. Chicano	
e. Black	
f. Cuban	
g. White	
h. Other	

* Please return by ______________

*

* Thomas Czerlinsky, Ph.D.

*

B. Sources of Referrals

1. How many clients were referred to your facility by each of the following sources in the last fiscal year?

	No. of Clients
a. State Voc Rehab Agency	
b. Developmental Disabilities Board	
c. State Employment Service	
d. State Correctional Agency	
e. State Mental Health Agency	
f. Workmen's Comp Boards	
g. Social Security Boards	
h. CETA	
i. WIN/~~Welfare~~	
j. Other Rehab Facility	
k. Hospitals, Clinics, Doctors	
l. Regular Education (public schools)	
m. Special Ed Institutions	
n. Voc Tech Ed Institutions	
o. Colleges and Universities	
p. Private Insurance Carrier	
q. Private Business/Industry	
r. Self-Referred (own expense)	
s. Other (Specify)	

C. Fiscal Resources

1. Financial Resources (General Revenues) of your facility. List the sources of funds and revenues of your facility over the last fiscal year. Use the categories from item B1 above whenever appropriate.

Sources of funds or revenues	Amount
______________	
______________	
______________	
______________	
______________	
Gifts and Donations	
Prime Manufacturing	
Contract or Subcontract work	
Salvage work, Recycling	
Services	
Bonds, Investments	
Other (specify) ______________	

2

D. General Staffing

1. Total personnel in rehab at your facility:

	Number of Full-Time Equivalent Personnel
a. Administrators, Admin assistants, exec directors, public relations personnel	
b. Staff supervisors, coordinators, program/service directors	
c. Professional staff in client service	
d. Production staff, contract procurement personnel	
e. Service aides and paraprofessionals	
f. Interns and students	
g. Secretarial staff	
h. Clerical staff	
i. Volunteers	
j. Other support (Specify) ______________	

	Total Personnel
Total number of personnel employed at your facility	

E. Accreditation and Records

1. Indicate the date of accreditation and the length of accreditation for any of the following programs in which your facility has received CARF accreditation.

Program	Date of Accreditation Mo / Yr	Total Years
a. Physical Restoration	/	
b. Personal and social development	/	
c. Vocational development	/	
d. Sheltered employment	/	
e. Work Activity	/	
f. Speech pathology	/	
g. Audiology	/	

2. If your facility holds any other type of accreditation, list the type of accreditation (the source), what specific service/program it covers, date of accreditation, and length of accreditation.

Source of Accreditation	Services/Programs Accredited	Date Accredited Mo / Yr	Total Years
		/	
		/	
		/	

3. Personnel, clients, and fiscal resources for each facility program/service.

Complete the following to reflect your facility's resources during the last fiscal year. Availability: Check (✓) each program/service your facility offered during the year. Number Full-Time Equivalent (FTE) Staff: Indicate how many full-time equivalent staff members were involved in each checked program/service during the year (Do not include secretarial and clerical help). Number Clients: Give the total number of clients completing each checked program during the year. Program/Service Budget: Indicate how much money was allocated for each checked program/service for the year.

Formal Programs/Services	Availability (✓)	#FTE Staff	# Clients	Budget
a. Vocational/work Evaluation				
b. Psychological testing				
c. Vocational Counseling				
d. Personal Counseling				
e. Social Services				
f. Remedial Education				
g. Work Adj Training				
h. Occupational Skill training				
i. On-the-job Training				
j. Job-seeking skills training				
k. Job placement				
l. Sheltered Employment				
m. Work Activities				
n. Independent Living				
o. Daily Living Skills				
p. Residential Living				
q. Recreation				
r. Medical Services (inc OT, PT)				
s. Other (Specify)				

4. Please check all of the following that you have available from the last CARF accreditation. Please include all the checked items in the return envelope when returning this questionnaire.

	(✓)
a. Facility mission statement	☐
b. Facility goals and objectives statement	☐
c. Goals and objectives statement for each program/service offered	☐
d. Facility admission criteria	☐
e. Admission criteria for each program/service offered	☐
f. Program evaluation plan	☐

If your facility offers a vocational/work evaluation program or service, please continue with Section II below. If not, skip to Section III.

II. VOCATIONAL/WORK EVALUATION PROGRAM/SERVICE

A. Client Intake

1. How many clients were referred for vocational/work evaluation programs or services at your facility the last fiscal year?

Source	Number Clients
a. State voc rehab agency	
b. Developmental disabilities board	
c. State employment Service	
d. State correctional agency	
e. State mental health agency	
f. Workmen's compensation boards	
g. Social security boards	
h. CETA	
i. WIN/Welfare	
j. Other rehab facilities	
k. Hospitals, clinics, doctors	
l. Regular educ (public schools)	
m. Special ed institutions	
n. Voc tech ed institutions	
o. Colleges and universities	
p. Private insurance carrier	
q. Private business/industry	
r. Self-referred (own expense)	
s. Other (Specify)	

B. Staffing of Service Programs

1. List each individual staff member (including administrators, professionals, students, interns, aides, and volunteers) with responsibilities in providing vocational/work evaluation services during the last fiscal year by: Position, percent of time employed in that position, years rehab experience at your and other facilities, degree held and field of degree, and age. Please continue on back of page 5 if needed.

Position (Title)	% of time	Years Rehab Experience at other Rehab Settings	Years Rehab Experience at your Facility	Degrees Type	Degrees Field	Age

C. Technology Used In Evaluation

1. Below are methods or systems commonly used in vocational/work evaluation. Please indicate with the 0-3 scale your facility's use of each of these during the last fiscal year.

0 = Don't have; 1 = Method or system available but rarely used (with less than 5% of the clients); 2 = Used with only certain (few) clients (less than 50%); 3 = Used with most clients (50%+).

Vocational/work Evaluation Method or System		Amount of Use (0-3)
Psychometrics		
Commercial work samples	TOWER System	
	Philadelphia JEVS Work Sample System	
	Singer Vocational Evaluation System	
	Talent Assessment Programs	
	Wide Range Employment Sample Test	
	McCarron-Dial Evaluation System	
	VALPAR Component Work Sample Series	
	COATS System	
	HESTER System	
	Micro-TOWER System	
	VIEWS System	
	Broadbent System	
	Other commercial systems (Specify)	
Non-commercial, locally developed work samples		
Situational assessment (i.e., production work)		
Job tryout (external to facility)		
On-The-Job Training (external to facility)		
Other (specify on back of page 5)		

D. Service Characteristics

1. Place a checkmark (✓) behind each of the following procedures used at your facility in the last fiscal Year. Then, for each checked item, check (✓) the appropriate box to indicate the approximate percentage of clients with whom each was used.

Procedure	Used (✓)	Check (✓) Percent (%) of Clients With Whom Each Was Used <10	25	50	75	90	100
a. Formal Intake Interview	☐	☐	☐	☐	☐	☐	☐
b. Joint formal evaluation plan (IWRP)	☐	☐	☐	☐	☐	☐	☐
c. Joint review of eval findings with client	☐	☐	☐	☐	☐	☐	☐
d. Joint review of eval recommendations with client	☐	☐	☐	☐	☐	☐	☐
e. Formal exit interview/staffing on client	☐	☐	☐	☐	☐	☐	☐
f. Formal report/written to agent(referral source)	☐	☐	☐	☐	☐	☐	☐
g. Review of eval findings with agent(referral source)	☐	☐	☐	☐	☐	☐	☐

If you checked item e above (indicating that your facility uses a formal exit interview/staffing), check all those below who are typically present at the exit interview.

	Typically Present (✓)
a. Client	☐
b. Evaluator	☐
c. Referral Agency Rep. or Rehab. Counselor	☐
d. Relative(s) of Guardian(s) of Client	☐
e. Client Advocate(s)	☐
f. Other (specify	☐

2. Client and evaluator load in vocational/work evaluation services in last fiscal year.

	Total Number
a. Total # clients served	
b. Average # clients served each day	
c. Average Daily caseload PER EVALUATOR	
d. Average # days clients served	
e. Average # evaluators (in full-time equivalents) working per day	

3. Length of vocational/work evaluations in last fiscal year.

	Number of Clients Served			
Length of Evaluation	Total Served	Prematurely Terminated	Completed	Remaining on Rolls
1 week or less				
2 weeks.				
3 weeks.				
4 weeks.				
5 weeks.				
6 weeks.				
Other (Specify) ________				

E. Client Exit and Recommendations

1. For how many clients completing vocational/work evaluation during the last fiscal year were each of the following recommendations made? (A client may appear in more than one category).

Recommendations	Number of Clients
Further Diagnostic Services:	
a. Medical	☐
b. Social.	☐
c. Psychological	☐
d. Psychiatric	☐
e. Vocational.	☐
f. Other (Specify) ________	☐
Restoration Services:	
a. Speech/Hearing. . . .	☐
b. Medical	☐
c. Surgical.	☐
d. Psychiatric	☐
e. Prosthetics	☐
f. Job modification. . .	☐
g. Equipment	☐
h. Other (Specify) ________	☐

Recommendations	Number of Clients
Counseling Services:	
a. Personal	☐
b. Vocational . . .	☐
Adjustment Training:	
a. Personal	☐
b. Social	☐
c. Work	☐
c. Other (Specify) ________	☐
Education/Skill Training:	
a. Basic Ed Skills.	☐
b. High School/GED.	☐
c. OJT.	☐
d. Apprenticeship .	☐
e. Voc/Tech School.	☐
f. Projects with Industries . . .	☐
g. College.	☐
h. Other (Specify) ________	☐

(Contd:)

E. Client Exit and Recommendations (Contd:)

Recommendations	Number of Clients
Occupational or Employment:	
a. Work Activity Center	☐
b. Sheltered Employment	☐
c. Homebound Employment	☐
d. Competitive Employment.	☐
e. Other (Specify) ________	☐

Recommendations	Number of Clients
Other:	
a. Residential arrangements. .	☐
b. Independent Living.	☐
c. Activities of Daily Living. .	☐
d. Other (Specify) ________	☐

III. REACTIONS TO SURVEY

As described previously, this survey will be followed by further study of some representative facilities. Thus, it is essential to obtain complete/accurate information, and to obtain cooperation for the next phase of the study. Please check all of the following five boxes that apply to you and your facility.

	Check (✓)
a. I agree to the possibility of receiving a follow-up phone call to clarify ambiguities and/or to obtain missing information	☐
b. I agree to allow my facility to participate in the next phase of this study	☐
c. I would like to receive any reports resulting from this study	☐
d. I do not want to become further involved in this study.	☐
e. I'd rather get back to you about further involvement later	☐

NAME OF FACILITY: ____________________

ADDRESS: ____________________

____

TELEPHONE NUMBER: ____________________

Name and position of person completing this survey:

____

SIGNATURE: ____________________ DATE: ________

(Please enclose the information requested in Item Ie4)

THANK YOU FOR COMPLETING THIS SURVEY!!

RESEARCH PROJECT REPORT Project No. R-46

1. Title The Impact of Independent Living on Vocational Evaluation

2. Project Status (Check):

Proposed ___ New ___ Continuing ___ Completed ___ Discontinued ___

Transferred ___ Other x Differed. See Progress Report #8 for project discription

3. Beginning: ________ mo/yr Expected Completion: ________ mo/yr Completed: ________ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82

5. Financial Data:

Estimated Cost From Beginning to End of Project: ________

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs								
Supplies and Other Expenses								
Travel								
Equipment								
Indirect Costs Allowed by								
Total								
Percent								

*For report year and continuation year

RESEARCH PROJECT REPORT Project No. R-51

1. Title An Evaluation of the Role and Utility of Learning Assessment Instruments in Rehabilitation

2. Project Status (Check):

Proposed x New ___ Continuing ___ Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 7/81 (mo/yr) Expected Completion: 6/83 (mo/yr) Completed: ___ (mo/yr)

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Thomas F. Blakemore ABD	Psychology		35
Charles Coker, Ph.D.	Psychology		5
Clerical			5

5. Financial Data:

Estimated Cost From Beginning to End of Project: 47,930

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs		13,091		1,385				14,476
Supplies and Other Expenses		1,934						1,934
Travel		855						855
Equipment								
Indirect Costs Allowed by		2,382		4,318				6,700
Total		18,262		5,703				23,965
Percent		76		24				100

*For report year and continuation year

6. Statement of the Problem

Purpose

In recent years, educators have developed instruments that are used to assess a student's learning or cognitive style. These instruments are designed to determine the type of instructional format and the environmental and motivational conditions that are best suited for an individual. This information is used in the development of an individualized instructional program consistent with that student's style of perceiving and processing information. More recently, members of the rehabilitation community have begun to advocate the use of these instruments in rehabilitation (McCray, 1979). Such instruments (e.g., Learning Capacities) are being used in some rehabilitation settings. The present research will have two purposes. The first will be to develop a state-of-the-art paper on these instruments, attempting to synthesize what is currently known in terms of the validity and reliability of various cognitive styles and related assessment approaches; and how they might be useful in enhancing the rehabilitation process. The second purpose of this project will involve testing the validity and utility of a selected cognitive style instrument(s) in a Vocational Evaluation setting.

Introduction

Traditionally, educators believed that people differed in their aptitudes for the various tasks they were taught. It was also believed that, although one method of instruction might be better than another, people responded similarly to a given method. That is, if a given method of instruction was superior to another for one individual or group of individuals, then it would be the superior method for all individuals. Further, the failure of individuals to learn or acquire skills was considered to be the fault of the individual and not necessarily with the mode of instruction. It is now believed by many educators, however, that there is no single method of instruction that is best for all individuals. In the past two decades, there has been a significant, and largely successful effort at developing programs which provide individualized instruction. That is, education is more and more being tailored for each individual learner in the system and designed to meet the learner's unique needs. As a result of these efforts, there is now evidence which seems to indicate that people differ, not only in their aptitudes for specific tasks, but also in the manner in which they could best learn the task (Lesser, 1971).

Kirby (1979) reviewed the literature dealing with learning and cognitive styles and how they relate to transfer skills. She stated that the term "learning style" is a relatively recent one and that much of the early research that was done in this area referred to "cognitive styles." Kirby suggests that such terms are very similar in meaning, although the term "learning style" seems to be somewhat broader in connotation and that many learning style instruments seem to be more practical in nature. Learning styles refer not only to cognitive factors that could influence performance at a task, but also to considerations such as the best social, lighting, or temperature conditions for learning. Kirby quoted Cross (1976) who described a cognitive style as "characteristic way of using the mind." Similar definitions have been used for learning styles.

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Since the terms learning and cognitive style appear to be overlapping to a great extent, they will be used interchangeably in the remainder of this proposal. It should be kept in mind however, that many researchers may not use them interchangeably nor would they agree upon a definition of either term. In the present paper, the terms will be loosely defined to refer to an individual's characteristic or preferred way of learning or acquiring knowledge or skills. Once a thorough review of the literature has been completed (Phase I of this project), it may be possible to develop more precise and restrictive definitions of these terms.

Much of the research relating to the assessment of learning styles has dealt with individualizing instructions tailored for specific individuals rather than a group of individuals at a certain age or grade level. A number of authors (e.g., Lesser, 1971; Weisgerber, 1976) have stated that it is only relatively recently that any real effort has been made to systematically individualize instruction. A number of programs such as Individually Prescribed Instruction (Cox and Lindvall, 1971) and Individually Guided Education (Rossmiller, 1976) have resulted from these efforts.

Lesser (1971) argued that although educational researchers have long studied individual differences in students, they failed to analyze the implications of these differences with reference to providing different types of instructional methods for individuals with different needs. Only recently have educators come to understand that individuals with different styles or preferred modes of perceiving, thinking, and communicating can benefit best from different methods of instruction and different instructional environments. He further argues that research psychologists, who have been studying learning for almost a century have usually tried to ignore individual differences when studying the learning process. The reliance on normative data and experimental designs such as the control group are examples of attempts to minimize individual differences. Also, Weisgerber (1976) pointed out that before the mid-1960's the focus in educational research was on such things as teacher variables, methods of group instruction, curriculum, etc. He states that only after researchers began to examine characteristics of learners and their needs was any substantial progress made in terms of tailoring instructional programs for the individual learner.

A great deal of the research that has been done in the area of learning styles has consisted of attempts to discover or demonstrate which factors are educationally relevant. Such research was designed to identify those factors which educators should attend to when teaching. Kogan (1971) summarized a number of such factors which were studied in some of the early research on cognitive styles. These included such things as field dependence/independence, cognitive complexity/simplicity, reflectiveness versus impulsivity, constricted versus flexible control, and a number of others. Lesser (1971) reviewed a number of studies which examined factors such as structured versus unstructured instruction with different personality types, "phonics" versus "whole-word" methods of teaching reading with children of different levels of language ability, visual and oral methods of instruction with children of different perceptual differences, working alone or in pairs with children of different personality types, and a number of other factors.

Lesser (1971) discussed the results of a study which suggests that there may be an interaction between students' learning styles, the subject matter being taught, and the method used to teach the subject matter. Students with two distinct learning styles (the first having a high interest in technology, low anxiety, and introversion; and the second having a social/aesthetic interest, high anxiety, and extroversion) were taught courses in mathematics or in simple visual discrimination. In addition, the material was presented using either a deductive or an inductive instructional method. The results indicated that students with the first learning style performed best when the mathematical material was presented inductively and when the course in visual discrimination was presented deductively. Just the opposite was true for the students with the second learning style. They performed best when the mathematical material was taught dedecutively and when the visual discrimination material was presented inductively. Thus, this study isolated three factors; learning style, type of subject matter, and the instructional method, that can affect the way a student performs and should be taken into account when designing an instructional program for an individual or group of individuals.

Learning assessment devices came about partly in response to and in conjunction with the movement toward individualizing instruction. It was recognized that instruments were needed which could assist in the identification of an individual's learning style and, thereby, aid in the prescription of an individualized instructional program for that individual. Another impetus for the development of such instruments was the increase in the number of students in higher education (i.e., college, junior colleges, and technical schools) who have atypical educational backgrounds. At the time, there was an influx of students who had not finished high school, who had not had course work that would prepare them for college, who were older students who were returning to school after many years of doing other things, or who could be described as "culturally disadvantaged." It was recognized that the typical methods of instruction, such as lecturing, might not always be the most appropriate way to teach such students.

The results of the above research, which dealt either directly or indirectly with learning or cognitive styles and the development of such instruments, tends to strongly suggest that, in order to maximize the chances that learners will be able to succeed in our educational system (and in our rehabilitation system as well), they should be exposed to methods of instruction that are individualized to the greatest extent.

In conjunction with the emphasis on individualizing instruction, educators have developed a number of learning or cognitive style assessment instruments (e.g., Dunn & Dunn, 1978; Rusalem & Malinik, 1976). These instruments(some are paper and pencil tests and some are interviews) are designed to determine the conditions (e.g., the instructional format, envionmental conditions, motivational conditions, etc.) under which an individual would best learn to perform a task. For example, some people might learn to tune a carburator more easily by watching someone else demonstrate how to do it, while another person might learn this task more easily by simply reading a manual. Also, some people perform best when they are motivated by a deadline, whereas others do better when under no pressure.

The output of most learning assessment devices is a profile of an individual's learning or cognitive style. These profiles detail the optimal instructional formats, environmental conditions, motivating conditions, etc., for that individual. This profile can be used as a prescription for a highly individualized learning program for that student. Proponents of the learning assessment approach argue that teaching people in accordance with their own learning style will reduce the number of individuals who fail in our educational system (Dunn & Dunn, 1978). They base their argument upon the results of research, such as some of the studies mentioned above, which suggest that students perform better when material is presented to them in a manner compatible with their learning style.

Learning assessment instruments have been used most extensively in educational settings, although some are now being used on a limited basis in rehabilitation settings. Learning Capacities Assessment, developed by the Rusalems (1976), is now being used in the State of Ohio, as well as other states. A procedure know as Cognitive Mapping (Hill, 1968) is also being used at the District 916 Technical School in White Bear Lake, Minnesota in conjunction with vocational evaluations. In addition, a number of articles have recently appeared in the rehabilitation literature (e.g., McCray, 1979) which advocate the use of some of these techniques.

There are a number of areas in the rehabilitation process where the information gathered in a learning assessment evaluation might be helpful:

1. In Vocational Evaluation, the failure to recognize an individual's preferred learning style may lead to underestimating the ability level of that individual.

2. Also in Vocational Evaluation, the purpose should not simply be to document poor performance, but also to determine what is causing poor performance and what can be done about it. The need exists (McCray, 1979; Rusalem & Rusalem, 1976) to determine whether performance deficits actually reflect a lack of ability or whether these "deficits" result from (1) the way in which task requirements are presented and/or (2) some aspect of the way in which performance is tested.

3. Learning assessment, if valid and reliable, would alter the amount of time spent in the rehabilitation process especially during work adjustment and/or skill training.

4. Learning assessment focuses on the individual's needs and abilities rather than on groups. Such an approach would enhance a client centered rehabilitation process rather than a bureaucratic approach.

5. Research on learning assessment could lead to specific, innovative programs which enhance or alter learning strategies.

While there may be several ways in which learning assessment devices could enhance the rehabilitation process, there are a number of things which should be known about them in order to insure that they are used effectively in rehabilitation. For instance, the majority of these instruments were designed for use in educational settings and it is not known whether they can be directly applied to rehabilitation settings or whether they must be modified in some way to maintain their validity. Also, these instruments range from those which measure somewhat esoteric constructs (e.g., Cognitive Mapping measures such things as "histrionics" and "proxemics") to those which are very pragmatic in nature (e.g., Learning Capacities attempts to determine the proper temperature, etc.). It is not known which of these approaches would be most appropriate to use in rehabilitation or in what ways they could best be used. Furthermore, the instruments currently being used in rehabilitation settings have not been objectively evaluated to determine either their validity or utility in rehabilitation.

The proposed research is designed to examine this promising area of learning assessment and will be comprised of two components. The first will consist of researching and writing a state-of-the-art paper dealing with learning assessment techniques and how they are and can be used in rehabilitation. This paper will include information about what testing techniques are currently available, what types of information they deal with, how they are being used in rehabilitation and education, information about research dealing with the validity and reliability of these instruments, and finally, how they are obtained, scored, and interpreted.

The second aspect of the proposed project will involve conducting two experiments designed to assess the validity and utility of a learning assessment device (e.g., the Learning Style Inventory developed by Dunn and Dunn, 1978) in Vocational Evaluation. In this component of the research project, the hypothesis that an individual will learn to perform on a task better if the instructional format is compatible with his/her learning style than when it is not will be tested.

7. Objectives

1. To develop a state-of-the-art paper dealing with learning assessment devices and the applications of such techniques in rehabilitation.

2. To test the hypothesis that an individual will perform better on a task if the instructional format which explains the task is compatible with the individual's learning style.

8. Methodology

Phase I

The initial phase of this project relates to Objective 1 above, and will involve a review of the literature related to learning style assessment devices. There are several purposes for conducting such a review. First, the review will be conducted in an effort to gather basic information about learning style assessment. At present, such information does not seem to be readily available to rehabilitation practitioners, despite the fact that such devices are already being used in some facilities. There is a need for a coherent statement about such assessment devices so that rehabilitation practitioners can make intelligent, informed choices about which device they should employ, if any. Second, there is a need to determine which learning style assessment instruments are reliable and valid. Third, there is a need to analyze, to whatever extent possible, the utility that such devices might have in rehabilitation settings and also to determine ways in which different instruments might be used in rehabilitation. A fourth purpose of this phase of the project would be to develop a manual that could guide rehabilitation practitioners in their choice of which instrument they should use. Finally, there is a need to identify what instructional strategies are best suited for clients with specific learning styles. Listed below, in Table 1, is a tentative outline of that manuscript.

Table 1

A Tentative Outline of the Literature Review Manuscript

Title: A Practitioner's Guide to Learning Assessment

I. Introduction to Learning Assessment Techniques
    A. Definition of Learning Assessment
    B. Rationale for Learning Assessment
II. Review of the Learning Assessment Literature
III. Types of Learning Styles
IV. Demonstration of the Effectiveness of Learning Assessment
V. The Use of Learning Assessment in Rehabilitation
VI. The Development of Instructional Strategies Which Match Learning Styles
VII. Limitations of the Use of Learning Assessment
VIII. Appendices
    A. Bibliography
    B. Information About Where to Obtain Learning Assessment Instruments

Phase II

The experimental phase of this project will consist of at least one of four alternative research strategies, or possibly, some combination of the four. A determination will be made as to which of these strategies will be used once the literature has been completed and the most appropriate learning style instrument has been identified. In this phase of the project, it is proposed to determine the degree to which the selected instrument or components of that instrument can accurately classify people in ways that would allow them to be more effectively taught a skill or tested on their ability to perform at some task. It is hypothesized that an individual will perform better on a task if the instructional format which explains the task is compatible with the individual's learning style (Objective 2, above). This phase of the project relates directly to determining the validity of the selected instrument within a rehabilitation setting.

Research Strategy I: Experimental Manipulation. One of the research designs that might be employed in this phase would consist of the following procedures. For the purpose of explaining the methodology that will be used in this research, let us assume that the components of the selected instrument that will be of interest in this study will be those dealing with "visual" learning styles. The initial step in the experimental phase of the project will consist of testing vocational evaluation clients from the Vocational Development Center (VDC) located at the University of Wisconsin-Stout with the selected instrument. The tests will be scored and those clients who meet the selection criteria will participate in the experiment. Participation of all subjects will be voluntary.

Eighty subjects will be selected for participation in this experiment. They will be chosen because their learning-style profile describes them as a "visual" or a "nonvisual" learner. (Note that the "visual-nonvisual" learning style was chosen only as an example. In the actual study, some other factor or a combination of factors might be used, depending upon the information gathered in the literature review.) These clients will then be taught to work on a work-sample task (e.g., the Eye-Hand-Foot Coordination Work Sample) with instructions that either do or do not include a visual component. Thus, the experiment would consist of a factorial design with two levels of learning style ("visual" and "nonvisual") and two instructional formats ("visual" and "nonvisual") used to explain to the clients the operations involved in the task (see Figure 1). Care will be taken to insure that the amount of information and the type of information that is presented in the two different instructional formats is as similar as possible. Half of the "visual" learners will be randomly assigned to each instructional condition and the same method will be used to assign the "nonvisual" learners. The dependent measure used in this study will be a measure of the client's task performance, such as the time to complete the task. If the selected instrument is a valid one, then "visual" learners who are given visual instructions (those including visual aids to explain the material) should perform better on the task than those given nonvisual instructions and the opposite should be true for the "nonvisual" learners. That is, the "nonvisual" learners should do better with the nonvisual instructional format.

Learning Style:

Instructional Format:	Visual	Nonvisual
Visual		
Nonvisual		

Figure 1. The proposed experimental design if Stategy 1 is employed. Additional learning style factors and instructional formats can be added to the design as needed.

Research Strategy II: Correlational Analysis. The second research strategy that might be employed in this phase of the project is a correlational one. The subjects would be 200 clients undergoing vocational evaluation at the VDC. All subjects would be administered the chosen learning style assessment instrument at the beginning of their evaluation. This testing would be the only deviation from the "standard" evaluation given at the center. That is, these clients would typically be tested on a wide variety of work samples (20 to 30) and in a variety of situations. For each of these individuals, a record will be made of how they perform on a number of "targeted" work samples. These work samples (probably 12 of them) will be selected because they represent a variety of instructional formats. For example, some of the work samples will have written instructions, some will have pictorial instructions, others might include audio or videotape portions, some might require the evaluator to demonstrate the proper techniques involved in the task, etc. A panel of experts will be called upon to identify what type of instructional format and task requirements are used in each of the targeted work samples.

No attempt will be made to change the instructions from the way that they are currently given at the VDC. Each client will not be required to take all of the targeted work samples, only those which their evaluator deems appropriate for that individual. Thus, for some work samples, it is expected that as few as 30 to 40 clients will be given that work sample in the course of their evaluation.

There will be two types of data obtained for each subject in this part of the experimental phase of this study. For each subject, there will be a Learning Styles Profile and also the scores that they obtain on any of the targeted work samples that they take. These data will be analyzed to determine the extent to which the profile scores predict performance on the different work samples and, hence, on with the different instructional formats. That is, a person who is described in his/her learning style profile as a "visual" learner should, on the average, perform better on work samples with a visual instructional format than people who are described as "nonvisual" learners. Or, "visual" learners, in general, should perform better on tasks with visual components such as color sorting tasks as opposed to tasks involving primarily kinesthetic or other sensory modalities. In either event the correlational analysis will attempt to determine to what degree learning style compatibility would effect task performance. Learning style "compatibility" would be considered to exist if either the instructional format or the specific task activities rely predominantly on one or more learning styles.

Research Strategy III: Vocational Analysis. The third research strategy that might be employed involves an attempt to determine the degree to which the selected learning style assessment instrument could be used to accurately classify people with respect to the task requirements of the jobs in terms of the Data-People-Things (D-P-T) code used by the Department of Labor. The Department of Labor's Dictionary of Occupation Titles (1977), or DOT, classifies vertually any job in terms of 1) occupational area, 2) the worker functions required in that job (D-P-T), and 3) a number which simply distinquishes between jobs that have similar occupational and D-P-T codes. The worker-function ratings in relation to data, people, and things are of interest for this strategy. Every job is believed to require people to function to some degree in relation to data, people, and things. The three digit code describes the level of functioning that individuals should possess in order to be successful at a various job. Table 2 gives the hierarchy functioning levels which each D-P-T category contains. Worker functioning requiring greater proficiency is coded with a low number in this system. For instance, an executive would normally need to be capable of functioning at a 0 (Mentoring) or 1 (Negotiating) level in the People category, whereas, an assembly line worker would probably only have to function at a 7 (Serving) or 8 (Taking Instructions-Helping) level to meet the requirements of his/her job.

Table 2

Worker Functions Ratings:
Hierarchy of Data-People-Things Categories
Used in the Dictionary of Occupational Titles

DATA	PEOPLE	THINGS
0 Synthesizing	0 Mentoring	0 Setting Up
1 Coordinating	1 Negotiating	1 Precision Working
2 Analyzing	2 Instructing	2 Operating-Controlling
3 Compiling	3 Supervising	3 Driving-Operating
4 Computing	4 Diverting	4 Manipulating
5 Copying	5 Persuading	5 Tending
6 Comparing	6 Speaking-Signalling	6 Feeding-Offbearing
	7 Serving	7 Handling
	8 Taking Instructions-Helping	

In many instances, as is the case at the VDC at UW-Stout, a vocational evaluator will make a judgement, based upon the information gathered in the evaluation process, about the client's capabilities in terms of the D-P-T codes as well as the occupational area. The D-P-T classification is considered important for making judgements about the appropriateness of a specific job choice for that client. It seems reasonable to expect that there may be some degree of overlap between the information gathered in a learning style assessment and that which is used in estimating an individual's D-P-T code. For instance, a number of the learning assessment instruments (e.g., Cognitive Mapping) query individuals about the way in which information is processed (data) and some other aspects which may be related to the People and Things worker function ratings. For this reason, the question of interest in the present research strategy involves the determination of the degree of correspondence between the infomation derived from the learning assessment instrument in determining the D-P-T rating for a client and the D-P-T ratings that an evaluator assigns to that client. Once the learning assessment instrument to be used in this phase of this project has been chosen (after the review of the literature has been completed), a determination will be made of the feasability of utilizing the present research strategy. If it appears that there is a logical correspondence between the information contained in the profile produced by the selected instrument and the D-P-T categories, then the present strategy will be employed, either alone or in tandem with one or more of the other strategies listed here.

Research Strategy IV: Cost Effectiveness Analysis. A final research strategy that might be employed in this project would involve an analysis of the cost effectiveness of the selected learning assessment instrument. The question of interest would be whether or not the use of a learning assessment approach would reduce the amount of time that a client would need to spend in skill training, work adjustment training, or some other service. In order to answer this question, two groups of individuals who are matched on appropriate variables (such as, type and severity of disability, age, sex, etc.) would be selected to participate in the study. One of these groups would receive learning style assessment, and a second group would receive a nonrelated type of testing (a placebo condition). The group which received the learning style assessment would then be trained on some task during skill training in accordance with the recommendations derived from the learning assessment regarding the most appropriate manner to teach these individuals. The second group would be trained on the same task but would be given the standard instructional method for that task. If the learning style assessment procedure can, in fact, prescribe the optimal method of teaching skills to a specific individual, then the learning assessment group should require less time in skill training to master a skill, or, should attain a higher level of proficiency in the same amount of time.

Timelines

July 1981	Resume reviewing the literature and begin interviewing agencies using learning style assessment instruments.
September 1981	Complete review of the literature and begin writing paper dealing with the review.
December 1981	Complete first draft of monograph for review.
January 1982	Complete paper dealing with the literature review and disseminate to appropriate sources (e.g., rehabilitation counselors, evaluators, etc.). Decide which research strategies should be employed (see Method for Phase II), develop instructional formats and procedures to be used in the research.
April 1982	Conduct pilot project to determine the validity of the methodology.
June 1982	Complete revision of all research instruments and procedures.
July 1982	Begin collecting data for Phase II.
December 1982	Complete the data collection phase and begin analyzing the data.
March 1983	Complete data analysis and begin writing a journal article describing results. Begin writing final report for project.
June 1983	Complete journal article dealing with experimental phase and complete final report. Disseminate all findings to appropriate sources.

9. Relevance of the Problem

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated enviornmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utlization activities.

From Figure 2 it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, and R-50).

This project is directly related to the Center's research mission on facility services. The proposed study would impact primarily upon the improvement of facility services. It relates to this emphasis in that it is designed to explore the usefulness of a number of learning style instruments that might potentially serve to increase the amount of information that is gathered in vocational evaluation and, also, possibly assist work adjustment speicalists by providing them with useful guidelines to follow when attempting to teach clients new, more productive behavior patterns.

To Rehabilitation

This project is directly related to one of the Center's basic research missions; improvement of facility services. It involves an attempt to define the boundaries of a service area and to determine the effectiveness of that service.

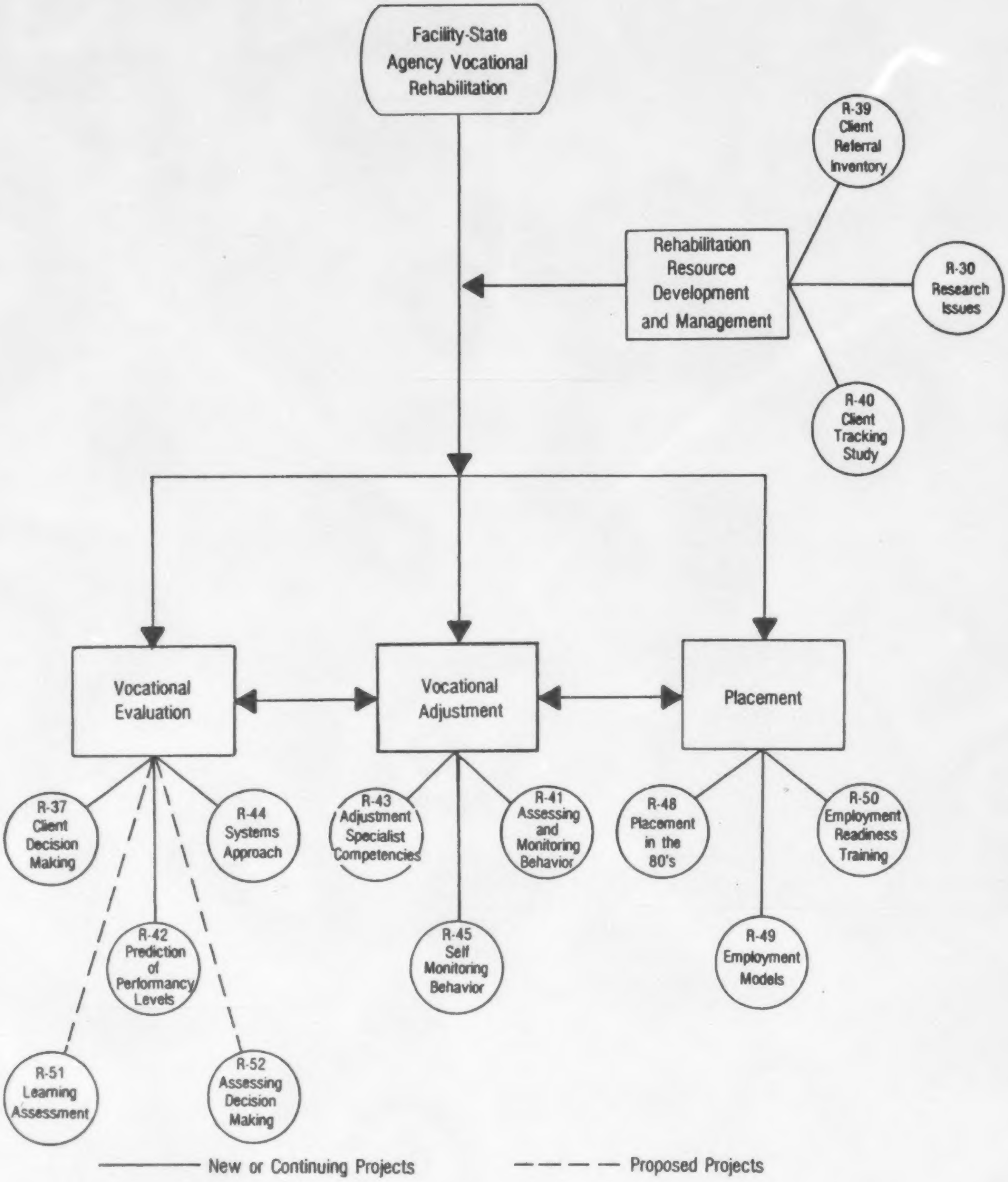
Facility-State Agency Vocational Rehabilitation
R-39 Client Referral Inventory
Rehabilitation Resource Development and Management
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 2: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

Specifically, the project will examine the appropriateness of the use of learning or cognitive assessment devices in rehabiliation. Such instruments are being used more and more in educational settings and on a more limited basis are starting to be used in rehabilitation. This project should provide rehabilitation professionals with basic information about such devices and give them the ability to make an informed decision as to whether they should use these instruments.

10. Client Characteristics

The experimental phase of this project will involve a minimum of 80 participants, all of whom will be selected from amongst Vocational Evaluation clients at the Vocational Development Center, University of Wisconsin-Stout. It is expected that any clients at the VDC will be eligible for participation in the project except for those whose disabilities might prevent them from performing on the work sample that is used in the experiments. Voluntary participation on the part of all clients will be obtained, in accordance with the University of Wisconsin-Stout's and DHEW's Policies and Procedures on Protection of Human Subjects.

11. Dissemination of Findings

The findings of the study will be disseminated through:

A. Publication of project's findings:

   1. After review of literature, a "state-of-the-art" paper will be published which contains an overview of what learning assessment instruments are, how they are used, etc. and will contain a "book of readings" with references, resources, etc.

   2. A second publication will be the final project report with the results of both the literature review and the experimental phases of this project.

   3. All publications will be made available to the Materials Development Center, NARIC, and other Data Centers.

B. Publication in the Center's RTC Connection.

C. Journal articles, as appropriate.

D. Incorporation of findings in Center's current training programs.

E. Development of new short-term training programs for facility rehabilitation personnel who provide evaluation, and adjustment services.

12. Current Year's Activities

This research project began as a discussion item at the July, 1980 meeting of the Center's Advisory Council and was drafted as a prospective research proposal for the October, 1980 Advisory Council meeting. At that meeting, the project's concept was approved. The project was then reviewed for methodological soundness in December, 1980 by the University of Wisconsin-Stout Research Screening Committee. In January, 1981, the Center's Advisory Council reviewed and approved this project for submission as a part of the Center's continuing research program.

Additional activities are currently underway. Research literature and copies of measure that assess learning style are being collected and reviewed.

13. Utilization of the Findings

The findings of the present project should enable rehabilitation professionals to determine whether and under what conditions they should use learning or cognitive style assessment devices. The literature review should provide basic information about such instruments to practitioners in the field and enable them to make informed choices about which devices are most appropriate for their needs. The experimental phase of this project should be a first step towards determining whether such an approach can be cost effective and useful in rehabilitation.

14. Policy, Program, and Practice Changes

The results of this project would have impact primarily on changes in program procedures. Such changes would be likely in the areas of Vocational Evaluation, Skill Training, and Work Adjustment. In each of these types of services, it would be beneficial, to the client and to the program, to be able to increase the efficiency with which clients learn to perform a skill. It is likely that learning assessment instruments, if proven valid and reliable, could be incorporated into Vocational Evaluation programs as a part of the standard assessment of clients. The output from such testing would be a prescription as to how to teach a client. This could be beneficial during evaluation and, later, during skill training and/or work adjustment because it would reduce the probability that a client would fail to learn a task and could also reduce the cost of skill training or work adjustment by reducing the length of the service.

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RESEARCH PROJECT REPORT Project No. R-52

1. Title Assessment of Selected Vocational Decision-Making Capacities of Vocational Rehabilitation Clients

2. Project Status (Check):

Proposed x New ___ Continuing ___ Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 7/81 (mo/yr) Expected Completion: 6/84 (mo/yr) Completed: ___ (mo/yr)

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Thomas Czerlinsky, Ph.D.	Psychology		45
Charles Coker, Ph.D.	Psychology		5
Vacancy	Computer Specialist		15
Clerical			5

5. Financial Data:

Estimated Cost From Beginning to End of Project: 119,316

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs		21,669		2,309				23,978
Supplies and Other Expenses		3,224						3,224
Travel		1,425						1,425
Equipment								
Indirect Costs Allowed by DE		3,948		7,197				11,145
Total		30,266		9,506				39,772
Percent		76.1		23.9				100

*For report year and continuation year

6. Statement of the Problem

The service of Vocational Evaluation has a number of purposes, not the least of which is to assess the skills and abilities of clients with respect to the world of work. Clients with diverse backgrounds and capacities are referred to Vocational Evaluation, many of whom may never have made specific occupational choices of decisions. The success of an evaluation may depend largely on the extent to which it is able to increase the abilities of clients to make their own vocational decisions, rather than on the amount of client information gathered through psychometric tests, work samples, and/or situational assessments. Such vocational decision-making skills are important for clients, not only to enable them to participate in their own rehabilitation process, but also later, when they are, hopefully, functioning independently of the rehabilitation system. Despite this importance of vocational decision-making skills to vocational rehabilitation clients, very little research has been conducted on (1) the extent to which vocational decision-making problems are experienced by clients, and (2) the development of an assessment tool to measure the problems which clients may have in making vocational decisions.

In a completing study conducted by the Center, "An Exploratory Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients" (R-37), we were concerned with a preliminary effort to develop an instrument for assessing vocational decision-making abilities of vocational rehabilitation clients. That project resulted in an initial version of the Decision-Making Interview (DMI). The present project will continue this line of research with the DMI. Specifically, the project will: (1) determine the DMI's reliability over a period of time; (2) determine its validity using several different criteria; (3) determine what types of clients evidence various patterns of vocational decision-making capacities and deficits; and (4) assess whether the instrument appears to have utility to the field of vocational rehabilitation and to clients themselves.

Introduction

A client entering the vocational rehabilitation program is confronted with a major decision: The identification of a realistic vocational goal. It can be assumed that clients vary in their ability to make such decisions and in this respect do not differ substantially from other persons within the general population who have been confronted with a similar task. There exists a continuum of vocational decision-making success along which individuals may be classified. On one end are individuals who have made a decision, are satisfied with it, and know how to implement it. In the middle are individuals who have not made (or cannot make) a decision, due to lack of necessary self, situational and occupational information. At the other end are individuals who lack the necessary skills to go about either acquiring information, making a vocational decision, and/or implementing that decision. Holland and Holland (1977) have stated that individuals on this end of the scale, where few skills are present, may suffer from the condition they termed "the indecisive disposition." Such individuals may have great difficulty in being able to make realistic vocational and other decisions.

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The degree of intervention necessary to assist individuals in making a specific vocational decision will vary, depending upon their place on this continuum, and could range from simple support and encouragement through an intensive, multifaceted therapy program of several months duration. A host of potential interventions could be utilized in assisting people in developing the capacities to make a specific vocational decision. The identification and selection of suitable treatments, however, is limited by existing knowledge gaps related to: (1) lack of a consistent, concise, and standardized vocabulary for describing vocational decision-making problems; (2) lack of means of identifying these problems over a broad range of vocational rehabilitation clients, some of whom may lack the intellectual and academic skills necessary to complete self-report forms and checklists; and (3) lack of empirical research demonstrating the efficacy of particular intervention technologies with particular decision-making problems.

No rehabilitation service directly treats client decision-making problems. Vocational Evaluation programs, however, appear to be the appropriate point in the rehabilitation process to begin such treatment, since these services have the necessary vocational, client, and situational information-gathering techniques to impact on vocational decision-making. The gathering of client vocational information for assessment and prediction purposes is considered the prime process of Vocational Evaluation. A second process, often not emphasized or not considered, consist of using that information to assist the client in making vocational decisions.

In Vocational Evaluation, the specification of decision-making skills is typically restricted to statements such as "can't make a vocational choice," "has made an unrealistic vocational choice," "doesn't know what he wants to do,"etc. There exists a continuum in Vocational Evaluation programs in how much they deal with clients' vocational indecisions. In some programs, attempts are made to assist clients in making a realistic vocational choice through extensive interaction with the client. In others, clients do not even know why they are there. The involvement of clients in processing information which rehabilitation professionals obtain about them and in making vocational decisions is important, not only to Vocational Evaluation, but to other services as well. If clients do not actively participate in their own rehabilitation by accepting the responsibility for vocational decisions, then such decisions will be made for them by the various professionals with whom the clients interact.

A hypothesis that may be formulated and experimentally tested is that the more a client actively participates by making vocational choices, the more likely will be the success of the rehabilitation process. On one hand, some rehabilitation professionals appear not to give clients the opportunity to make their own decisions. On the other hand, some rehabilitation professionals place responsibility directly on the client for making all vocational choices. However, some clients have the skills for making vocational decisions, while others lack the basic understanding of how to make these decisions. Thus, deficits in decision-making capacities and the opportunity to make these decisions complicates the task of diagnostic, remediation, restorative, and training services. The ideal situation is to employ techniques which enable individuals who are able to do so to make their own decisions, and assist other clients with their decision-making problems.

This issue of involvement of the client in the process of vocational decision-making does not appear to be isolated to handicapped individuals within the rehabilitation system. There are no acceptable models of vocational choice, and of the underlying decision-making process. One may speculate that this situation exists mainly because there had not been a need to "decide." Offspring were expected to follow in their parents' footsteps. This situation has changed and, increasingly, individuals are expected to "choose" their own vocation. Handicapped individuals, faced with such choices, are under more pressure to make "realistic choices" because of the short period of time that rehabilitation services are provided.

Some research has begun to examine the processes of vocational exploration and decision-making which secondary and post-secondary students undergo. Little of this research, however, has been conducted on the vocational choice problems and decision-making processes of rehabilitation clients. Yet, no group of individuals appears to have more information collected about their assets and liabilities than do rehabilitation clients. In an initial exploratory study conducted at the Center, we attempted to investigate the problems that selected groups of rehabilitation clients had, examine the range of vocational decision-making skills they used, and develop and validate a tool -- the Decision-Making Interview (DMI) -- to measure these skills and abilities. This proposed project is a continuation into the realm of client vocational decision-making. It will further develop and validate the DMI in an effort to develop an instrument which will be useful to the field and which will have the potential to provide information which will enable evaluators and others working with clients to tailor their programs and procedures so these clients will receive maximum benefits from their participation in Vocational Rehabilitation programs.

Literature Review

When faced with a client who is unable to state a job goal, the vocational evaluator must provide assistance to facilitate eventual job selection. Prior research dealing with vocational indecision has not considered the rehabilitation client specifically. Thoresen (1976) points out that most research dealing with this problem has considered high school and college populations and "future research should take account of a wider range of clients, including women, minorities, and adult career-changers."

Reviewing the existing literature pertaining to vocational indecision, Holland and Holland (1977), suggests a number of reasons for the indecision of college and high school populations. They also suggest that there is a large number of sub-groups within the overall undecided population. Each of these sub-groups may be undecided for different reasons, or a combination of reasons, each of which may require a different remedy. Holland and Holland (1977) also state that the chief application of their research to vocational indecision is recognition of the "need to see undecided students as multiple sub-types who need different personal-vocational treatments."

Given the lack of solid data concerning vocational indecision in the literature, and the absence of research on populations other than those in their mid-teens and early twenties, Jones and Jung (1976) call for descriptive research to investigate the characteristics and strategies of the vocational decision-maker.

One of the most ambitious attempts to develop a scheme for the classification of vocational choice problems is that of Crites (1969). The Crites scheme depends upon the availability of general aptitude and interest test scores and the individual's statement of vocational choice. The scheme classifies individuals into three broad problem categories (adjustment, indecision and unrealism) with sub-categories under each. Eight possible categories are available, of which seven represent decision problems. Although the Crites system has mutually exclusive and independent categories, its dependence upon measured aptitudes and interests makes it cumbersome in screening situations or in situations where clients have limited reading levels. Additionally, considerable subjective procedures are involved in accurately classifying clients.

Empirical research on vocational indecision has been conducted by Osipow, Carney, and Barak (1976); Holland, Gottfredson, and Nafziger, (1975); and Holland and Holland (1977). Hollands' diagnostic scheme has its roots in Parson's (1909) original formulation of a vocational choice as involving self-knowledge, occupational knowledge, and "true reasoning" to reconcile the two. Holland and Holland (1977) found that their students' explanations for being undecided tended to form a single internally consistent scale. In contrast, Osipow, et al., (1976) focused upon four factors (need for structure, perceived external barriers, positive choice conflict, and personal conflict) and state that "it may be useful to consider undecided people as comprising multiple sub-types rather than a single type" (p.412). Four basic sub-types are identified: (1) individuals who do not perceive any necessity for making a decision; (2) individuals with slight to moderate levels of immaturity, interpersonal incompetency, anxiety, and alienation; (3) individuals who have moderate to severe levels of these factors; and (4) individuals with the "indecisive disposition." The latter is "the outcome of a life history in which a person has failed to acquire the necessary cultural involvement and environmental knowledge to cope with vocational decision-making as well as other common problems" (p. 413). This group appears to be similar in nature to the "work inhibited client" identified by Tiffany, Cowan, and Tiffany (1970), as well as the high risk of failure group encountered by Gellman, Gendel, Glaser, Freidman, and Neff (1956) in their study of adjustment programming in a workshop setting.

Other research has studied the effects of different variables on occupational choice. Ginzberg, Ginsburg, Axelrod, and Herma (1951) developed a model of occupational choice in terms of how "fantasy" choices are modified by interaction with the work world, work roles, and perception of obstacles to the fantasy occupation. Howell, Frese, and Sollie (1977) have completed further research on the Ginzberg model which suggests that the obstacles to initial occupational choices are the predominant factors which modify subsequent choices. Some predominant factors which individuals perceive to produce obstacles are race and social origin.

Still other research has examined the effects of anxiety on vocational decisions (Hawkins, Bradley and White, 1977), the relation between vocational self-concept and making a satisfying vocational choice (Barrett and Tinsely, 1977), and strategies clients use to avoid making a decision (Rosenberg, 1977). There may be other models of vocational choice and decision-making, but unfortunately, the state-of-the-art in this area appears to be adequately summarized by the title of Holland and Holland's 1977 article: Vocational Indecision: More Evidence and Speculation.

The more abstract aspects of decision-making have also been examined in economic, management, social, and individual situations (Edwards & Eversly, 1967; Edwards, 1954; Savage, 1954; Mostelle & Nogee, 1954; Luce & Raiffa, 1957; Coombs, 1964; Kenney & Raiffa, 1976). Such research has led to Decision Theory (White, 1969) which has been built upon an existing complex body of knowledge utilized by economists, operations researchers, and mathematicians for maximizing cost/benefits and probability estimations. The maxims in this theory center around: (1) describing choice situations under varying degrees of uncertainty and risk, (2) assigning values to alternatives, (3) measuring probabilities of outcome, and (4) determining utility. The concerns in these theories involve such concepts of mathematical models as transitivity, additivity, Baysean statistics, Markov chains, and the effects of uncertainty and risk, which, at times, completely reverses mathematical calculations of choice selection. These models all indicate that individual decision-making and its prediction is indeed complex. They suggest that individuals in a choice situation should begin an information search process, determine values, formulate alternative choices, determine the utility of each alternative which includes determining their value to the individual (Subjective Expected Utility) and the expected probability, decide among the alterntives in a way that maximizes the potential benefit to the individual, implement the choice, and reconduct the whole process as the choice is implemented to determine if the values expected probabilities, and barriers were indeed true.

This latter research and their corresponding mathematical models are difficult to apply to individuals making vocational decisions. Two primary rules that must be assumed are that (1) Decision-making is a logical process and (2) Decisions are made to maximize the potential benefit to the individual. To what extent rehabilitation clients initiate a rational decision process designed to assess different vocational alternatives, determine values, estimate probabilities of outcomes, and implement a choice is unknown. It is also unknown what major areas of information clients need to make vocational decisions. Despite the lack of a unifying model, it is possible to develop a tentative classification of vocational decisions and problem areas associated with vocational decisions or vocational indecisions.

There have been attempts to develop interview formats for the assessment of vocational problems, dating back to Parsons (1909). One of the more recent is the Vocational Diagnostic Interview (VDI) developed at the Minneapolis Rehabilitation Center (Sturm, Otto, and Bakeman, 1972). The VDI is directed toward the diagnosis of vocational problems in four broad areas: Job goal, job seeking skills, job retention, and job environment. The basic problem with the VDI format is that it lacks sufficient depth to enable the interviewer to determine the specific problems which may be related to a vocational choice (job goal) problem. The VDI assumes that the individual has made a vocational choice and, thus, can state a job goal.

A more specific interviewing routine than the VDI is needed if the individual cannot express a specific occupational choice. The research of Osipow, et al., (1976) and Holland and Holland (1977) suggest that this additional interview data should cover some basic factors, which are outlined in Table 1. This classification was used in the exploratory study (R-37), conducted by the Center, which resulted in development of the Vocational Decision-Making Interview (DMI). The DMI utilizes a structured interview technique, and it is intended to collect data concerning clients' decisions, the perceptions clients have of themselves and of various occupations, and the skills clients possess in making vocational decisions.

TABLE 1

VOCATIONAL CHOICE AREAS: A TENTATIVE CLASSIFICATION

A. Information Areas

   1. Self knowledge
      a. needs
      b. beliefs and interests
      c. abilities
      d. personality

   2. Occupational Knowledge
      a. opportunities and requirements
      b. tasks and duties
      c. positive and negative aspects

B. Decision-Making Areas

   1. Acquisition of Information

   2. Processing of Information

   3. Skills in Choosing

   4. Success in Previous Choices

   5. Responsibility/Control

6. Anxiety/Fear of Decision-Making

C. Implementation Areas in Making the Decisions

1. Family/Social
    a. coercion
    b. lack of reinforcement

2. Economics

3. Mobility

Proposed Research

The proposed project continues this line of research with the DMI. It has a number of specific objectives, as detailed under Section 7 below. There will be four phases. In the first phase, pilot work will be conducted to develop and to refine a number of instruments which will be used in later phases, and to determine criteria against which successful vocational decision-making can be compared. The second phase will utilize a pre-post design with a group of Vocational Evaluation clients, and it will address primarily reliability and validity issues related to the DMI. The third phase will utilize a nation-wide sample of diverse groups of vocational rehabilitation clients to determine, among other things, characteristics of clients with various patterns of vocational decision-making strengths and deficits and to further assess validity. The fourth phase will be directed toward demonstrating the utility and effectiveness of the DMI when used in the field. The overall aim of this project is to gather data about vocational decision-making, to develop valid and reliable assessment techniques for this capacity, and to ultimately develop specific treatment strategies to overcome barriers to employment that decision-making deficits present.

7. Objectives

This project will utilize the DMI in a variety of settings, and it has the following specific objectives:

1. To estimate the stability (test-retest reliability) of the DMI subscales and total score over time.

2. To estimate the validity of the DMI subscales and total score (using both concurrent and discriminant criteria).

3. To determine whether the various aspects of decision-making competency tapped by the DMI improve as a function of clients completing the process of Vocational Evaluation.

4. To determine whether DMI patterns of scores at the beginning of Vocational Evaluation correlate with the types of treatments clients receive during their Vocational Evaluation program, and if so, whether these treatments appear to effect client DMI scores by the end of Vocational Evaluation.

5. To determine whether demographic or personal characteristics of clients correlate with vocational decision-making competencies and deficits, or with changes in these characteristics over time.

6. To demonstrate the effectiveness and efficiency of assessing decision-making capacities in the rehabilitation process.

8. Methodology

The four phases of this project are delineated below. Phase I is directed toward the development of instruments and the establishment of criteria of successful vocational decision-making. Phase II will use these instruments and criteria in a pre-post test design with a group of evaluation clients, and it will address Ojbectives 1-5. The third phase will utilize a nation-wide sample of vocational rehabilitation clients, and address Objectives 2 and 5. The last phase will be the demonsration phase (Objective 6) and will assess the DMI when used in the field.

Phase I

The purpose of this phase will be to develop a number of instruments to be used in this project, and to generate criteria of client vocational decision-making independent of the DMI.

Subjects. The subjects for this phase of the study will be vocational evaluators, vocational rehabilitation counselors, and clients receiving Vocational Evaluation services. They will be recruited from UW-Stout's Vocational Development Center (which has agreed to be a primary research site for this project) and possibly from a number of facilities nation-wide which have expressed an interest in participating in this line of research.

Instruments. A number of instruments will be developed and field-tested (piloted) in Phase I, and these instruments will be used in later phases.

1. Evaluator/Counselor Form. This form will parallel the DMI, in that evaluators or counselors will rate the client on each of the DMI categories, but they will do this on one global rating item for each category. For example, on the Self-Appraisal Scale, the DMI includes the items (on Table 1) under Information Problems -- Self Knowledge (Needs, Beliefs and Interests, Abilities, Personality). The Evaluator/Counselor Form will have one global item for each of these four sub-categories. Thus, to tap "Abilities," the evaluator or counselor will respond to an item using the following format:

At this point, this client appears to have adequate knowledge about his/her abilities, disability(s), and limitations to decide what kind of job or work he/she can do (or could do with further training).

Check one of the boxes below

1. ☐ True 2. ☐ Perhaps 3. ☐ False 4. ☐ Insufficient information to judge

If you checked 1, 2, or 3 above, on what was this based (e.g., observation, work sample, client verbalizations, your own estimation, etc.)?

____

____

Several other items will also be included in this form. There will be a prompting question asking the evaluator or counselor to indicate further areas of strengths or weaknesses in vocational decision-making that he/she has observed in the client, but which may not have been tapped by the parallel form. This information will be used to develop new areas of vocational decision-making strengths and weaknesses which professionals have focused upon, for possible inclusion in future revisions of the DMI. Also included will be a section which will obtain criteria which evaluators and counselors may use in judging the level of a client's decision-making competencies. These criteria will be independent of the items in the DMI. Once such criteria are established, they will be used for analyses in Phases II and III to establish discriminant validity of the DMI. Lastly, a section will be developed on which evaluators can indicate additional or ancillary services provided clients while in Vocational Evaluation, which may effect the levels of various vocational decision-making competencies or deficits. This section of the form will be utilized in Phase II.

2. Client Decision-Making Judgment Form. Pilot work will be conducted to identify relevant key criteria which clients themselves use to judge their own level of vocational decision-making competency. The aim is to develop several indicators which clients use in judging themselves in this regard. The actual criteria will be determined by the clients. These client-generated criteria will be used in Phases II and III as a possible basis for categorizing clients to determine discriminant validity of the DMI.

Procedures. Phase I is the period when a number of instruments will be developed for use in later phases. There will be no experimental procedure per se. The technique will be to contact a number of target persons (evaluators, counselors, clients) and elicit their assistance in developing the items and forms. These target persons will also be enlisted to assist in developing criteria against which successful decision-making can be compared. To achieve this goal, inquiry will be addressed toward:

(1) defining a successful vocational decision; (2) defining strategies that may lead to making successful vocational decisions; (3) determining methods to assess whether successful vocational decisions have been made and whether they were appropriate to the individual's level of decision-making capacity; and (4) developing outcome measures that are appropriate to specific levels of decision-making capacities.

Phase II

This aspect of the project will involve a longitudinal pre-post study with a group of Vocational Evaluation clients, and it will address Objectives 1-5.

Subjects. The subjects for this phase will be a random sample of 100 clients entering UW-Stout's Vocational Development Center to received Vocational Evaluation services. They will not be selected on variables that may relate to vocational decision-making, so as to obtain a range of decision-making abilities. Selection of subjects will be spread out over a sufficient period of time to ensure that the subjects represent a cross-section of the normal Vocational Development Center population. All potential subjects will be apprised of the nature of this study, and written informed consent will be obtained prior to their participation.

Instruments. There will be three primary instruments used in this phase -- the client DMI, the Evaluator/Counselor Form, and the Client Decision-Making Judgement Form. The DMI will be administered pre-evaluation and post-evaluation. It will be orally administered to overcome problems that some clients may have in filling out paper-and -pencil tests, and it is estimated that the average time to complete the DMI will be approximately 40 minutes. The Evaluator/Counselor Form and the Client Decision-Making Judgement Form will be administered post-evaluation only.

Also completed at the end of the Vocational Evaluation will be a checklist of pertinent information the experimenter will collect about each client-subject and about the Evaluation, mostly from the records. This will include demographic information about the client, information collected about the client during the process of the Evaluation (IQ, work sample performance, etc.), information about the Evaluation process itself (length, hours per day, what was done, etc.), whether the client received any ancillary services concurrent with the Vocational Evaluation (particularly any activities which may relate to level of decision-making), and whether any such services were recommended for the client at the end of the Vocational Evaluation process. Evaluators will indicate whether they conducted any activities with the client during the evaluations which might affect level of client decision-making capacity (e.g., what percent of the time was spent in counseling with the client about making vocation decisions, or other related activities), and whether (and if so, how) each evaluation differed from the normal evaluations conducted at the Vocational Development Center.

Procedures. The design is basically a pre-post test design, with the normally scheduled Vocational Evaluation occurring between the two sets of measures. The instruments to be used are shown in Figure 1.

Figure 1

Instruments Used in Phase II

Pre-Evaluation	Post Evaluation
1. Client DMI	1. Client DMI
	2. Client Decision-Making Judgment Form
	3. Evaluator/Counselor Form
	4. Information Checklist

Initially, all potential subjects will be individually interviewed. At this interview, the nature of the study will be explained to them, and questions will be answered. It will be made clear that their participation will not effect any of the services that they would receive if they did not participate. If clients agree to participate, written informed consent will be obtained. The pre-evaluation DMI will then be administered orally by an experimenter trained in the administration of this instrument. Scores will be derived to yield a profile of the client's DMI scores which will pinpoint each client's relative competencies and deficits in the various areas of vocational decision-making. The profile of scores derived for each client will be used to identify the specific areas toward which a potential remediation program could be directed to alleviate deficits. The results of this administration of the DMI will not be communicated to evaluators who will be working with the client. (i.e., evaluators will be blind to the pre-evaluation DMI). Clients will then complete the process of Vocational Evaluation which will not be influenced by any results previously obtained on the DMI.

At the completion of the Evaluation, clients will complete the post-evaluation DMI and the Client Decision-Making Judgment Form. Evaluators will then complete the Evaluator/Counselor Form. They will rate their judgment of each client's vocational decision-making competencies and deficits on the Evaluator/Counselor Form, and for each category, indicate whether they feel that anything during the Evaluation period may have positively effected pre-existing levels of decision-making capacities, and if so, what was done (a description of the treatment). The evaluators will also rate the clients on the independent criteria of vocational decision-making. Information will then be gathered to complete the Information Checklist and this will be addressed toward the various content areas described above in the Instrument section.

Phase II will be addressed at Objectives 1-5. Reliability of the DMI will be assessed (Objective 1) with the pre-post DMI administration, using a rank-order correlation procedure. This technique is suitable for the assessment of characteristics which may change as a function of clients undergoing the process of evaluation. Objective 3 will be addressed by comparing the differences in the changes in scores on the three subscales and the total score. Validity (Objective 2) will be assessed by two means: concurrent validity will involve ascertaining the congruence between the post-DMI and the evaluators' ratings of the clients on the parallel form section of the Evaluator/Counselor Form; and discriminant validity will be assessed using the independent criteria of vocational decision-making competencies rated by evaluators and also by clients to identify two groups of clients (high and low) in this realm, and then determining whether these two groups differ on DMI subscores and total score. The data required for Objective 4 and 5 will be derived from the Information Checklist.

Phase III

This phase will involve a broad range of clients receiving services nationwide. The purpose of this phase will be to describe what types of clients evidence what types of patterns in vocational decision-making capacities (Objective 5) and to further assess the discriminate validity of the DMI. (Objective 2).

Subjects. The subjects for this phase will be vocational rehabilitation clients receiving services at a number of facilities nationwide which provide vocational rehabilitation services. Facilities will be selected to provide subjects with a broad range of disability conditions and backgrounds.

Instruments. Four instruments will be utilized in this phase of the project:

1. The DMI will be administered to clients.

2. The client Decision-Making Judgment Form will be completed by all subjects (clients).

3. The Evaluator/Counselor Form will be completed by the service provider who has the most intimate knowledge of the client at that point in time (probably the vocational rehabilitation counselor or the vocational evaluator). Three sections of this form will be completed (the section that parallels the DMI, the section that taps additional decision-making strengths and weaknesses not covered by the DMI, and the section that asks professionals to indicate independent criteria of decision-making competencies that they use). Not included will be the section requiring professionals to indicate any ancillary services provided to the clients.

4. Extensive information will be collected on the Demographic Form about key characteristics of each client, including demographic information, disability information, work history, etc.

Procedures. This phase will be conducted at a number of facilities nationwide, covering a range of disability and client categories. The specific facilities that will be utilized will be chosen from twenty facilities that have contacted us and indicated a desire to be research sites for this line of research. The criteria for selection will include obtaining a broad range of clients, including some clients that have virtually completed the vocational rehabilitation program and are about to be placed into a competitive job.

Once research arrangements have been completed, the procedure will involve administering the DMI and the Client Decision-Making Judgment Form to a random sample of clients at each facility, having the counselor, evaluator (or other service professional) complete the Evaluator/Counselor From for each client tested, and obtaining the demographic information about each client.

A number of issues will be addressed in Phase III. First of all, it will seek answers to whether different types of clients (in terms of demographics, region, disability, etc.) evidence different patterns of profiles of DMI scores (Objective 5). Secondly, a number of criteria will be generated which will be used to determine whether the DMI can distinguish between large groups of clients judged as high or low on various criteria of vocational decision-making capacities (Objective 2). Criteria will include judgments made by counselors or evaluators, judgments made by clients themselves, and status criteria (comparing clients about to be placed with clients near the beginning of their vocational rehabilitation program).

Phase IV

This phase of the project will be the demonstration phase, and it will be directed toward Objective 6. Exactly how it will be conducted (and even whether it will be conducted) will be contingent upon the results obtained in the project from Phases I, II, and III. That is, before the DMI will be put into use in the field and utilized by professionals in making practice and program decisions about clients, certain assurances about the instrument must have been obtained -- particularly in regard to reliability and validity. If the preceding phases yield an instrument of sufficient reliability and validity to be utilized by vocational rehabilitation personnel, Phase IV will be carried out.

In this phase, the efficiency and the effectiveness of the DMI (in its present form, or, if warranted, in a revised form) will be determined. Selected rehabilitation personnel(vocational evaluators and/or rehabilitation counselors) in Wisconsin will use the DMI in practice for a trial period and a micro and macro analysis of the effects will be measured. Micro analysis will involve similar considerations as in the preceding developmental phases. Macro analysis will involve measures similar to those being collected in Project R-40 (Facility Services - A Tracking Study) in terms of length of time in each rehabilitation service, total length of time in the rehabilitation process, number and pattern of services, rehabilitation outcome, and so on.

Phase IV should yield information upon which to make a judgment about whether the DMI is an instrument that is ready to be disseminated to practitioners in the field.

Timelines

July, 1981	Initiate Phase I. Pilot and develop instruments for use in later phases.
January, 1982	Initiate Phase II.
December, 1982	Complete written report of Phases I and II.
January, 1983	Initiate Phase III.
November, 1983	Complete written report of status of DMI (Phases I-III). Determine whether Phase IV will be implemented.
January, 1984	Initiate Phase IV (if warranted by Phase I-III). Otherwise prepare final report of this project.
June, 1984	Complete final report (if Phase IV was conducted).

9. Relevance of Project

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

Form Figure 1, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44 (P) R-51, and (P) R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, 4-49, and R-50).

This project impacts on Vocational Evaluation, since the broad objectives are to further test and refine the Decision-Making Interview (DMI), determine its relationship to the perceptions of vocational evaluators and counselors active in the field, and describe what types of clients have what types of problems in this realm. Such data could have immediate effects on both the process and the outcome of Vocational Evaluation.

To Rehabilitation

This project examines a basic functional capacity of clients to make decisions regarding their own vocational future and its aim is to further test a vocational Decision-Making Interview (DMI) developed in a prior study, to assess changes in this capacity over the course of Vocational Evaluation, to describe what types of clients appear to have what types of problems in this realm, and, if the instrument appears promising, to field test the DMI on a trial basis.

In many ways, all vocational rehabilitation services are directly affected by the ability of clients to participate in planning their own rehabilitation. Most practitioners deal directly or indirectly with clients who cannot decide or are dissatisfied with their choice. Yet, the focus of rehabilitation services appears to remain with the state agency counselor purchasing services or the service provider planning the structure of a particular service. Clients maybe left out of the planning phase due to a deficit in decision-making capacities or the failure of the professional to involve the client.

The project has particular relevance to Vocational Evaluation. As a service, it has different meanings in different settings. It is suggested that Vocational Evaluation may be the appropriate place to begin the remediation of decision-making problems by: (1) identifying the capacities the individual lacks to make decisions; (2) identifying individuals who lack decision-making capacities; or (3) identifying individuals who have adopted, as part of their life style, an avoidance to making decisions. Information in this realm may ultimately lead to means of efficiently and effectively identifying weaknesses that clients may have in this realm, which in turn may lead to effective means to remedy such deficits (perhaps decision-making efficacy training programs). Such an approach may have strong impact on clients, either as part of the evaluation program or as an independent program more or less concurrent with it. Logically, such training should be conducted at a time when clients are actively exploring vocational alternatives, such as during Vocational Evaluation. Many treatment and intervention strategies may well be wasted because the main problem of habilitation/rehabilitation may well be in the area of vocational decision-making and not primarily due

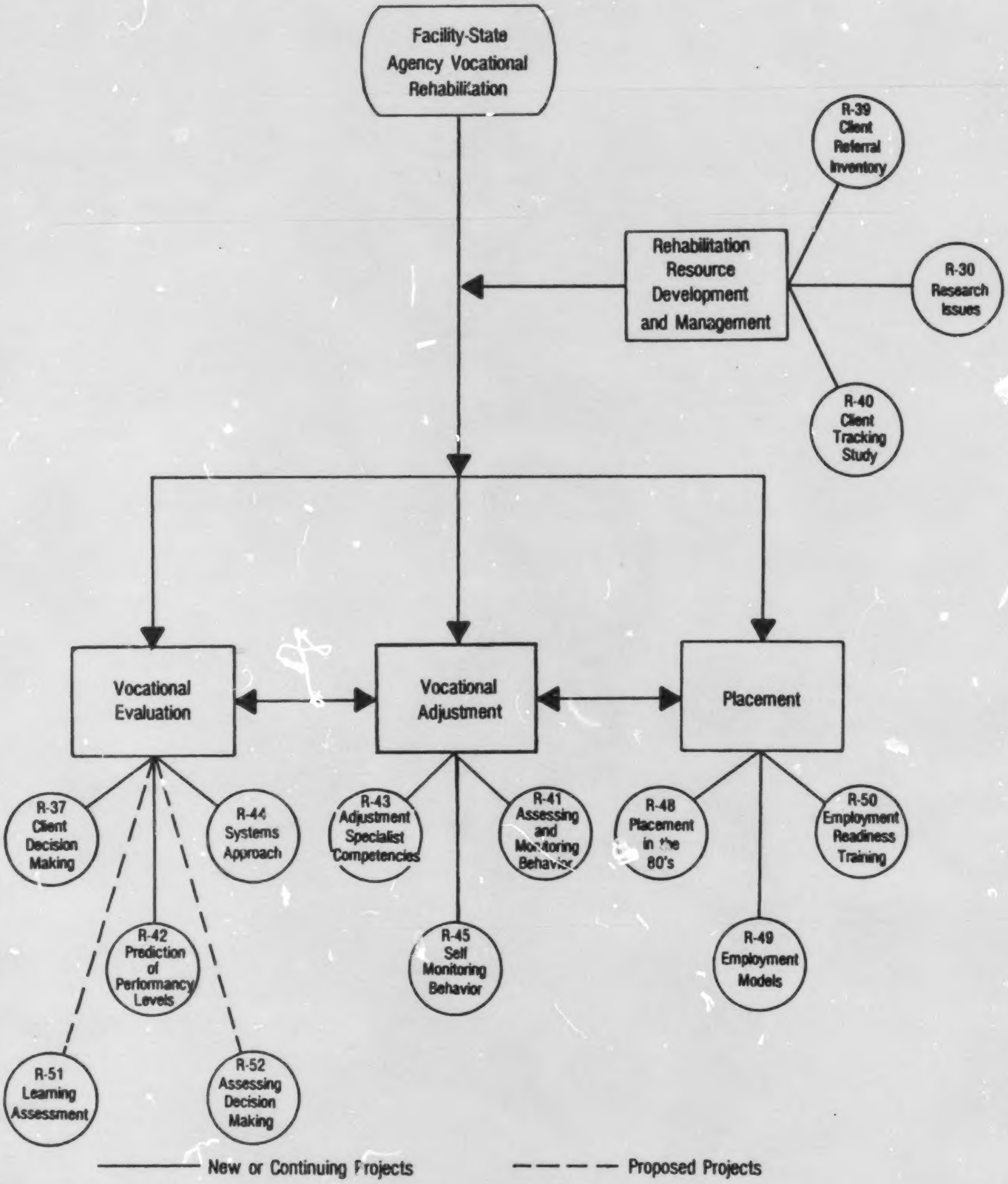
Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

to a client's disability.

10. Client Characteristics

The subjects involved in this project will be clients receiving vocational rehabilitation services at various facilities, and in Phase II, they will specifically be Vocational Evaluation clients. Voluntary participation on the part of all subjects will be obtained.

11. Current Year's Activities

During the current year, further analyses were conducted on R-37 - "A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients." The activities on that completing project served as a basis for the current proposed project, (P)R-52. A full description of the results of R-37 can be found in this Progress Report. The instrument (the DMI) developed in that project is appended to the current project (Appendix A).

The following is a synopsis of the major results with the DMI to date. The instrument itself is a 73-item interview format comprised of three scales -- Employment Readiness, Self Appraisal, and Decision-Making Readiness. Each of the Seventy-three items requires clients to indicate whether it is true for themselves ("true"), whether it is not true for themselves ("false"), or whether the clients are not sure if the statement is true for themselves ("not sure"). Thirty-six of these items are followed by a prompting question which requires clients to demonstrate their knowledge of the material covered in a particular item. All items are scored such that a high score reflects more ability in the areas that those sets of items are tapping.

To estimate its reliability and validity, the DMI was administered to three groups of 30 subjects: (1) vocational rehabilitation clients in Vocational Evaluation, chosen to represent vocationally undecided clients; (2) vocational rehabilitation clients in vocational training, selected to be representative of vocationally decided clients; and (3) seniors in high school, chosen to represent a mixture of vocationally decided and undecided individuals.

Reliability tests showed that each of the three DMI scales was reasonably internally consistent (reliability coefficients ranged from .62 to .79). Inter-scale correlations ranged from .37 to .55, showing that there was some degree of overlap between the different subscales, and each one was not tapping a totally unique area.

Concurrent validity was estimated to determine whether the content area that the DMI was tapping was indeed decision-making. This was done by correlating the DMI scores with three independent measures also administered: (1) the Crites Maturity Inventory (CMI) Attitude Scale, a theoretical indicant of vocational maturity that has previously been used as a measure of decision-making ability (e.g., Chandler, 1978); (2) an item asking the client to state three job goals; and (3) an item asking the client to state three career goals. The DMI Total, Employment Readiness, and Self-Appraisal scales were significantly positively correlated with all three indicators (the lowest level of significance was $p < .05$). The Decision-Making Readiness scale had a significant positive correlation with the item asking about job goals ($p < .05$) and marginally significant correlations with the other two indicators ($p < .10$). This overall pattern of correlations indicated a reasonable degree of concurrent validity for the DMI.

In terms of discriminating among these three groups of subjects (discriminant validity) chosen to differ in levels of decision-making ability, the DMI showed promise. The DMI Total and the Decision-Making Readiness scale obtained marginal significance. ($p = .06$ and $p = .09$, respectively), with the training group of clients scoring highest, the evaluation group lowest, and the high school group scoring at an intermediate level. However, the Employment Readiness and the Self-Appraisal scales did not discriminate significantly($p = .14$ and $p = .28$, respectively), although the means on both of these scales showed the evaluation group< high school group <training group, consistent with the other two scales. Interestingly, there were also significant differences ($p < .05$) in variability between the groups, with the training group being more homogeneous than the evaluation group of clients on the DMI Total, Decision-Making Readiness scale, and Employment Readiness scale. There was no heterogeneity of variances between the groups in the Self-Appraisal scale ($p < .30$).

These were the patterns of results for this initial version of the instrument. On the DMI Total and Decision-Making Readiness scale, the analyses suggested that those clients who had completed Vocational Evaluation and were receiving Vocational Training tended to score higher and were more homogeneous than those clients beginning Vocational Evaluation. This would be an expected pattern if indeed clients were gaining in decision-making skills during or as a result of Vocational Evaluation, or if some selection process takes place which hinders clients low in decision-making capacities from entering vocational training.

Although this preliminary study showed some promise, further research, development, and modifications are clearly called for with this instrument before it is ready for clinical use. To be of benefit to clients, the DMI should allow for valid diagnostic decisions, which could then be utilized in planning and conducting programs which would help clients overcome some of the diagnosed deficits in vocational decision-making capacities. This, in turn, would enable clients to benefit optimally from their Vocational Evaluation programs.

12. Dissemination of Findings

Center Research Reports

Results of all data analyses will be disseminated in specific Center research reports. These will be sent to all state agencies and to professionals within the field of facilities and Vocational Evaluation, vocational education, special education, and special needs programs. Copies will also be made available to N.A.R.C., E.R.I.C., and other clearinghouses. The results of the previous exploratory study are contained in an unpublished doctoral dissertation (Strohmer, 1979), and have been published in the RTC Connection (Czerlinsky, 1980) and the Information Exchange Program.

Journal Publications

Significant findings and implications will be prepared for journal publications and submitted to, as appropriate, the Vocational Evaluation and Work Adjustment Bulletin, Rehabilitation Counseling Bulletin, and Journal of Applied Rehabilitation Counseling.

A report of results based on a preliminary survey of evaluators' perceptions of client decision-making has been published (Czerlinsky and Coker, 1980).

Training and Implementation Reports

Findings from this study will be incorporated into Center training programs in Vocational Evaluation and Vocational Adjustment. As information is gathered about client vocational decision-making problems, client vocational indecision, and changes in these realms during the course of Vocational Evaluation, it is planned to incorporate these findings into training programs for professionals working with clients to learn to recognize and then remediate these vocational decision-making problems. Short reports on the need for professionals to be aware of decision-making problems of clients and their relation to the rehabilitation process will continue to be published in the Center's RTC Connection series to increase the utilization of this research.

13. Utilization of Findings

This research examines an area of client functioning which has not received significant study. Most professionals agree that the more clients are involved in their rehabilitation program, the more likely the success of that program. Involvement can be defined in relation to the client's ability to participate in decisions relating to the development of the IWRP, to the development of specific service goals, and placement in a vocational setting.

It is difficult to understand how clients could participate in these decisions unless a vocational choice, either occupational or career, has been made or a decision made that more information or counseling is needed to make such choices. Thus, this area of research impacts on basic capacities of clients, which are a prerequisite to the success of providing services to place clients in a compatible vocational setting.

It is expected that the DMI will be utilized as a diagnostic instrument for identifying clients who have difficulties in the realm of making vocational decisions. Such clients may not currently benefit fully from Vocational Evaluation and other vocational rehabilitation services. Information is gathered by and about them, but this information may be underutilized by these clients since they may lack the skills necessary to integrate this information, and to formulate plans on the basis of it. If through the

DMI, clients deficient in this realm can be identified, and specific deficits and competencies highlighted, then, ultimately, treatments can be recommended. Such programs would be specifically aimed at the remediation of vocational decision-making deficits and may give clients the needed skills and knowledge to fully utilize Evaluation and other vocational information about themselves. Thus, the vocational choices and decisions they make may be more beneficial to them, not only during their vocational rehabilitation, but also beyond.

14. Policy, Program, and Practice Changes

The area of research under investigation could have major impact on program and practice procedures.

Program

A probable program change would be the establishment of various services whose goal would be the development of decision-making capacities. As indicated earlier, this program change could affect Vocational Evaluation programs by revising the exit criteria from this program in relation to the capacity of clients to make viable occupational choices.

Practice

The availablility and utilization of a method to determine clients' strengths and deficits in the realm of making vocational decisions should increase the perceived relevance of this area to Vocational Evaluation and to other vocational services.

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APPENDIX A

VOCATIONAL DECISION-MAKING INTERVIEW (DMI)

EXPERIMENTAL
Not for General Distribution

Appendix I

Decision-Making Interview

Circle one answer for each question, also fill in the blanks as necessary.

T = True NS = Not Sure F = False

True	Not Sure	False		(SECTION ONE)
* T	NS	F	3.	I have decided what kind of job I would like to have.

1st Choice:______________________________

2nd Choice:______________________________

3rd Choice:______________________________

(If "false" or "not sure", go to #5)

T	NS	F	4.	I am sure about this choice.
* T	NS	F	5.	I know what kind of career I would like to have, that is what type of work I would like to do for the rest of my life.

1st Choice:______________________________

2nd Choice:______________________________

3rd Choice:______________________________

(If "false" or "not sure", go to #7.)

T	NS	F	6.	I am sure about this choice.
T	NS	F	7.	I would take any job.

INFORMATION PROBLEMS (SECTION TWO)

Self Knowledge

Needs True	Not Sure	False		
T	NS	F	1.	I know how much money I would need to earn from a job.

How much money?______________________________

True Not Sure False

T NS F 2. I have a preference for the part, of town, state, or country that I take a job in.
Where would you prefer?________________________

* T NS F 3. I know what types of work I would not do, even if I made a lot of money.
What type of work?__________________________________

* T NS F 4. I know enough about my needs to decide about jobs.
List three of your needs:
1.______________________
2.______________________
3.______________________

* T NS F 1. There are certain types of jobs I wouldn"t take because of my beliefs - that is the things I believe in.

T NS F 2. I know enough about my beliefs to decide about jobs.
List three of your beliefs that would help you decide to take a job.
1.____
2.____
3.____

3. I know what types of work would be interesting to me.
What types of work? __________________________________

4. I know enough about my interests to decide about jobs.
List three of your interests.
1. ____
2. ____
3. ____

Abilities

* T NS F 1. I know what kinds of work I am good at doing.
What kinds of work? ____________________________________

T NS F 2. If I had more training, I know what kinds of work I could do?
What kinds of work? ____________________________________

True Not Sure False

T NS F 3. I know how my disability limits the kinds of work I could do.
How does it limit the kinds of work you can do?

____

* T NS F 4. I know enough about my abilities to decide about jobs.
List three of your abilities:

1. ______________________________________

2. ______________________________________

3. ______________________________________

Personality

T NS F 1. I change my opinion of myself a lot.

* T NS F 2. If someone asked me, I could describe myself, my personality accurately.

T NS F 3. I know what kind of life I want for myself.

* T NS F 4. I know enough about myself to decide about jobs.
List three things about yourself:

1. ______________________________________

2. ______________________________________

3. ______________________________________

Opportunities and Requirements

T NS F 1. There are some jobs that I have been thinking about.
Name three jobs that you have been thinking about.

1. ______________________________________

2. ______________________________________

3. ______________________________________

* T NS F 2. I know how much education or training I need for jobs that I would like to have.
How much education or training? ________________

T NS F 3. I know how much experience I need for the jobs I would like to have. How much experience? ________________

T NS F 4. I have enough information on opportunities and requirements to decide about jobs.

A. Name three job opportunities:

1. ______________________________

2. ______________________________

3. ______________________________

B. Name three requirements:

1. ______________________________

2. ______________________________

3. ______________________________

Tasks and Duties

* T NS F 1. I understand the responsibilities that are common to all jobs.
Name three responsibilities that are common to all jobs:

1. ______________________________

2. ______________________________

3. ______________________________

T NS F 2. I know what kinds of tasks I would be doing on the jobs I have thought about. Name three tasks:

1. ______________________________

2. ______________________________

3. ______________________________

T NS F 3. I know what responsibilities I would have on the jobs I have been thinking about. Name three responsibilities:

1. ______________________________

2. ______________________________

3. ______________________________

T NS F 4. I know enough about what various jobs would be like to decide about jobs. Name three important things about jobs you are thinking about:

1. ______________________________

2. ______________________________

3. ______________________________

Rewards and Punishers

* T NS F 1. I could name some rewards or good things about some jobs.
Name three rewards or good things:

1. ______________________________

2. ______________________________

3. ______________________________

True | Not Sure | False

T NS F 2. I could name some things that I would not like about some jobs. Name three things you wouldn't like:

1. ______________________

2. ______________________

3. ______________________

T NS F 3. I could name some of the benefits that I should consider to decide on a job. Name three benefits:

1. ______________________

2. ______________________

3. ______________________

T NS F 4. I know enough about the advantages and disadvantages of different jobs to decide about jobs.

* A. Name three advantages: B. Name three disadvantages:

A. Name three advantages:	B. Name three disadvantages:
1. ______________	1. ______________
2. ______________	2. ______________
3. ______________	3. ______________

B. DECISION-MAKING PROBLEMS

Acquisition of Information

* T NS F 1. I know where to get information on different jobs. Where would you get it? ______________

T NS F 2. I know who to ask to get information on different jobs. Who would you ask? ______________

* T NS F 3. I know how to find out which jobs I could do. How would you find out? ______________

T NS F 4. I know how to find out which jobs I would be interested in. How would you find out? ______________

	True	Not Sure	False		
	T	NS	F	5.	I know how to get enough information on jobs to make a choice.

Processing of Information

	True	Not Sure	False		
	T	NS	F	1.	If I know what a job is like, I can decide if I could do the work. How would you decide? ______________________
*	T	NS	F	2.	If I know what a job is like, I can decide if I would be interested in doing the work. How would you decide? ______________________
	T	NS	F	3.	There are some jobs I could be good at doing. Name three jobs 1. ______________________ 2. ______________________ 3. ______________________
*	T	NS	F	4.	There are some jobs that are interesting to me. Name three jobs: 1. ______________________ 2. ______________________ 3. ______________________

Skills in Choosing

	True	Not Sure	False		
	T	NS	F	1.	I can describe the steps I would take to decide about a job. Describe the steps: ______________________ ______________________ ______________________
*	T	NS	F	2.	If there were several jobs that I was interested in I would know how to choose among them. How would you choose? ______________________ ______________________ ______________________
*	T	NS	F	3.	I would be good at choosing a job on my own.
*	T	NS	F	4.	I know enough about how to make decisions to make a job choice.

	True	Not Sure	False		Success in Previous Choices
	Yes	No (Circle One)			Have you had to make decisions about jobs before? (If not, go to Responsibility/Control)
	T	NS	F	1.	The decisions I have made about jobs have worked out okay.
	T	NS	F	2.	Having to make decisions about jobs is an unpleasant task.
*	T	NS	F	3.	Others often disagree with my decisions about jobs.
*	T	NS	F	4.	I have had good luck making decisions about jobs.
					Responsibility/Control
	T	NS	F	1.	I have made decisions about whether to take a job or not.
*	T	NS	F	2.	A job will come along no matter what I do.
*	T	NS	F	3.	I have let others decide which job was best for me.
					Anxiety/Fear of Decision-Making
	T	NS	F	1.	I get upset when I have to make a decision about a job.
*	T	NS	F	2.	I would rather let fate take its course than make a choise about a job.
	T	NS	F	3.	I feel sure of myself when I have to make a decision about a job.

C. ENVIRONMENTAL PROBLEMS

Family/Social

Coersion

*	T	NS	F	1.	I would take a job that my family and/or friends didn t approve of.
*	T	NS	F	2.	I let others decide which jobs I should take so they don't criticize me.
	T	NS	F	3.	I don't worry about letting others down by taking a job they wouldn't approve of.
*	T	NS	F	4.	Others expect me to take a certain type of job;

Lack of Reinforcement

Yes	No	(Circle One)	Do you have some friends?
Yes	No	(Circle One)	Do you have a family?
Yes	NO	(Circle One)	Are you married?

	True	Not Sure	False	
	T	NS	F	2. I would feel good if I could tell my friends (family, spouse) that I got a job.
*	T	NS	F	3. My friends (family, spouse) do not encourage me much to look for a job.
	T	NS	F	4. My friends (family, spouse) would be proud of me if I got a job.
				Economics
*	T	NS	F	4. Money is one of the reasons to look for a job.
				Mobility
*	T	NS	F	1. If I had to I could move to a different location in or out of town to get a job.
*	T	NS	F	2. If I had to I would move to a different location in or out of town to get a job.
	T	NS	F	3. I could find a way to get to work and back home again no matter where I lived.
*	T	NS	F	4. I have few job choices because it is hard for me to get around

(SECTION THREE)

General

Of all the things you have been asked about, what are the most important to make a good job or career decision?

* Of all the things you have been asked about, what things would you like help on to make a job choice?

* In general, what are your reasons for wanting a job?

RESEARCH PROJECT REPORT

Project No. R-41

1. Title The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services

2. Project Status (Check):

Proposed ___ New ___ Continuing ___ Completed ___ Discontinued ___

Transferred ___ Other x Completing 80-81 grant cycle

3. Beginning: 7/78 mo/yr Expected Completion: 6/81 mo/yr Completed: ______ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Gerald Schneck, Ph.D.	Vocational Rehabilitation	22	
Charles Coker, Ph.D.	Psychology	5	
Clerical		10	

5. Financial Data:

Estimated Cost From Beginning to End of Project: 87,100

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	7,475		1,001				8,476	
Supplies and Other Expenses	1,751						1,751	
Travel	660						660	
Equipment								
Indirect Costs Allowed by DE	1,483		2,934				4,417	
Total	11,369		3,935				15,304	
Percent	74		26				100	

*For report year and continuation year

6. State of the Problem

Purpose

In Vocational Adjustment, various aspects of the client's ability to function in the work setting are modified through a variety of techniques. Many of the behavioral problems related to client's work habits, social interactions, and personal attributes of the "good worker." Adjustment specialist, usually are not trained in traditional in-depth therapy modalities, nor would many of the problems encountered in Vocational Adjustment be remedied by such therapy. More and more adjustment personnel turn to behavior modification techniques to effect changes in their clients. An essential skill needed to implement behavior modification is that of observing and recording behavior. Yet, there does not exist an economical, practical observation system for assessing and monitoring behavior.

The purpose of this research project is to: (1) determine the reliability and validity of a behavioral observation coding approach (Point Sampling), (2) refine that approach to make it practical, and (3) develop a package for training practitioners on the basic but essential skills of observing and recording vocational behaviors in adjustment programs.

Introduction

The methods employed in the experimental analysis of behavior (Skinner, 1953) have, in the past two decades, let to the establishment of observing and recording the behavior of humans and provided one of the bases for individual behavior therapy (Wolpe and Lozarus, 1966) and behavior modification from a social learning viewpoint (Bandura, 1969). The interest, application, and theoretical concerns in behavior modification have become so much a part of the scientific and therapeutic community that the first Annual Review of Behavior Therapy (Franks and Wilson) was published in 1973 and each subsequent year.

The use of behavior modification techniques in vocational rehabilitation came largely through the stimulus provided by the application of a token economy in mental hospital (Allyon and Azrin, 1968). Others (Tharp and Wetzel,1969) reported the application of behavior management of education problems with emphasis on the management of the natural setting. Gardner (1971) discussed the application of behavior modification in sheltered workshops serving the mentally retarded. There now exists a number of articles and books on behavior modification in rehabilitation (e.g., Fordyce, Fowler, and Delateur, 1968; Halpern and Kottke, 1968; Leslie, 1968; Dunn and Kruel, 1976, etc). Further, a high level of interest exists in applying behavior modification techniques in rehabilitation.

Despite the high visibility and interest in behavior modification, rehabilitation facilities have difficulty initiating and maintaining effective behavior modification programs. There are many reasons that such applications have difficulty (e.g., staff training and staff time). One area that is often ignored is the requirement for systematic observation.. The methods of behavior change proved their efficiency in the laboratory setting where precise observation could be made involving continuous monitoring and recording of human and infrahuman subjects. Further, behavior change principles stemmed from a research methodology where the base rate of behavior was determined, a treatment introduced, and the effect on a particular behavior could be measured. These principles of defining the behavior to be modified, selecting a treatment strategy, and insuring accurate observation and recording of change in target behavior produced efficient results when attempted by research-oriented clinicians.

When a facility indicates that it utilizes behavior modification techniques, it does not necessarily mean that behavior is observed and recorded before, during, and after the intervention strategy. It appears that many facilities have adopted more the language of behavior modifications than their techniques. This state of affairs is not really surprising. A major reason that behavior modification techniques fail is that behavior observation does not occur on a frequent and systematic basis. Two major obstacles to such observation are that: (1) facility staff do not know what behaviors to observe; and (2) staff do not have the time to make the frequent, systematic observations often utilized in a research setting of therapeutic settings with a one to one client/staff ratio.

One would be led to believe that deciding what to observe would be a fairly simple matter. However, there are literally hundreds of "behavioral" rating forms or checklists detailing behaviors which could or should be observed. For example, Crutela and Uppers (173) cite 371 discrete behaviors in their work on a behavioral coding system. Walls, Werner, & Brown (1976) report on 157 behavior instruments, also detailing some set of behaviors which are thought to be important. Further, if one does not observe these behaviors on some systematic basis before, during, and after intervention, then there would seem to be little reason to expect that the cursory application of behavior change techniques would succeed. This certainly appears to be the case in many applied settings.

A similarity procedure for observing and their associated accuracy use area also not as simple as one would expect. In their discussion of behavior observation procedures, Wasik and Loven (1980) addressed the numerous areas of bias which impact on the accuracy of the data being collected and interpreted. They emphasize that the "accuracy of data is situation specific" since the number, type and extent of impact by these various bias producing environment factors differ over time, settings and individuals that are involved. Specifically, three major facets of the environment in which behavior observation is to be conducted were identified as having components which produced bias on collected data. These environmental facets include: (1) Characteristics of the recording procedure and observation system being utilized; (2) Observer characteristics; and (3) Setting variables. A number of biasing influences were then expanded upon as they applied to each environmental facet.

Biasing influences cited by Wasik and Loven (1980) for each environment facet were:

I. Characteristics of the Recording Procedures and Observation System

   a. Code Complexity
   b. Time Sampling Procedure
   c. Visual and Auditory Time Markers
   d. Methods of Calculating Observer Reliability

II. Observer Characteristics

   a. Expectations
   b. Reactivity to Reliability Assessment
   c. Observer Drift
   d. Amount of Training and Expertise
   e. Fatigue
   f. Data Interpretation
   g. Boredom

III. Setting Variables

   a. Reactivity to Observation by Subject
   b. Ecological Variables

Wasik and Loven (1980) found that to various extents, all of these sources of bias could influence the accuracy of data during collection and interpretation. The characteristics of the procedure being utilized to collect and interpret data is critical to acknowledgement of the capacity of the method to provide accurate information. The number of behavior categories utilized as responses by the observer (code complexity) can bias results in that difficulty in discrimination between and scoring of particular behaviors may result in error. Also, more complex systems, which utilize a significant number of response categories, also require mathematical skills and memory at higher levels of functioning than may be possible for observers over a prolonged period of time or under pressure. Increased numbers of response categories may result in a loss of observer reliability and an increase in cost and time required to train observers. The number of observations that are to be made and when they are schedules (time sampling procedures) may result in data that are either over-or under-estimates of actual behavior occurrence simply because of the biasing influence of the density of observations to the total number of observations that are possible.

Continuous observation of a client's behavior pattern is not possible nor recommended due to the excessive costs in observer time and the value of the resulting data to the client's program. Once an appropriate sampling procedure is determined, time markers that notify the observer when an observation is to be made, are introduced (visual and auditory time markers). Most often, visual time markers (i.e., wallclock, watch, chronography, etc.) are utilized by observers as a cue. Often the observer forgets to refer to the time marker an thus, the observation schedule is thrown off. Auditory markers (i.e., voice announcements via headphones or intercom, alarm clock, etc.) can be utilized but may affect the client's behavior since they may know when observations are taking place. Also, it has been found that the method by which observer reliability is calculated or data is reported may influence the accuracy of the results. The level at which calculation is made (is the measurement unit of interest a general or a specific behavior), the time span used for counting agreements between observers (the longer the time span covered the more likely agreement scores for observers will be artificially high), and the method used to obtain and numerical index of agreement (whole-session; exact agreement; category) will all contribute to potential over-or under-estimates of the agreement and accuracy of observers and, therefore, the quality of the resulting data.

The observers participating in behavior observation may themselves bring about bias because of: their own expectations of behavior; their reacting to being assessed for accuracy themselves; a tendency to drift in their definitions of set behavioral categories; variation in the amount of training in and experience with the system they are utilizing; manners by which they interpret the resulting data; fatigue brought about by prolonged or concentrated application of the observation approach; and bordom brought about by routine and uneventful occurrences of behavior in the work setting. Individually or in combination, these sources of bias affect the accuracy of data collected.

Within the setting in which the observation procedure is applied by observers, additional bias may appear due to: reaction of the subject to being observed (typical behavior patterns may change due to the knowledge that someone is observing the clients behavior); or other ecological variables (high activity in a setting can bring about coding errors by the observer, noise level can interfere with the ability to record behavior, high frequency in movement by the person being observed or others can decrease reliable assessment).

Typically, a combination of these sources of error bias the data which is collected through behavior observation. At any point in time, the extent to which each source interferes with the obtaining of accurate results varies an can not totally be isolated so that adjustments may be made to the results to increase their accuracy. Many of the sources of error, in fact, interact with each other to produce bias. In applied settings, many of these sources of error cannot be controlled to the extent that complete faith in the data's accuracy could take place. With this in mind, Wasik and Loven (1980) state that behavioral observers can increase the accuracy of data collected through implementation of two basic procedures: (1) utilization of a common observational system by all staff within the organization; and (2) implementation of a standardized training procedure for preparation and monitoring of the observers involved.

The sources of error and solutions to the problems associated with behavioral observation in applied settings are of substantial interest to the purposes and outcomes of this research study.

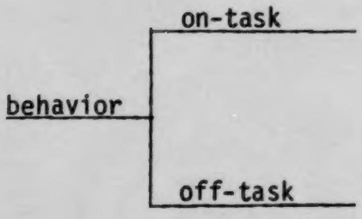
Point Sampling: Systematic Behavioral Observation

The Center originally developed a systematic observation system in 1976, mainly for use in Vocational Evaluation programs, to sample behavior and determine behavioral norms. Through various dissemination activites and feedback from practitioners, the utility of the system for quantifying behaviors and providing valuable information was proven. But also received were comments on certain inconsistencies within the system, implied assumptions not made clear, and problems in implementing the system. Thus, this project was initiated to refine the Point Sampling approach. To understand the research it will be necessary to describe the latest version of the Point Sampling system.

Point Sampling is an objective behavior observation system which is based upon three basic concepts: behavior hierarchy; operations definitions; and sample theory.

Behavior Hierarchy

A hierarch is a way of arranging this so that each step is increasingly more specific than the one preceding it in the hierarchy. Well constructed hierarchies are very powerful tools, since an individual can be accurately categorized or classified into one and only one branch of the hierarchy, based upon identifiable characteristics. An observable characteristic of an individual assigned to a work task is whether or not the person is engaging in any behavior which will lead to the completion of the assigned task. We call person "on task" if they are engaging in an activity which will lead to the completion of the task and "off-task" if they are not. They generally can be observed by watching for movement of the hands as in manipulating objects, writing, and so on. The on-task/off-task dichotomy give the first branch of the behavior hierarchy:

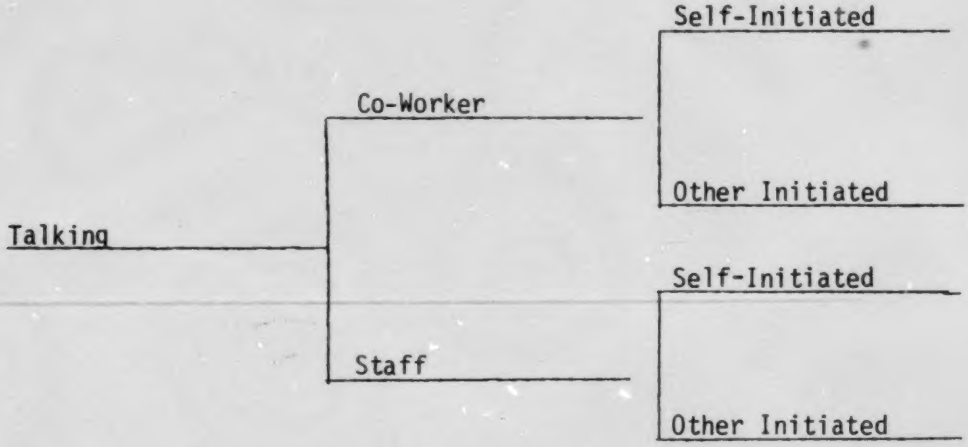


We can look at any individual and make a distinction between on-task behaviors provided that we know the individual's particular work assignment.

The on-task/off-task dichotomy is an important one in an objective behavior observation system. We can describe people as to whether they are on-task or off-task, but generally we want additional detail in our descriptions.

This detail can be obtained by adding mutually exclusive branches to the hierarch. Suppose we take the on-task branch. A person who is working on an assigned task can also be attending to the task (head down, looking at it while working), looking around, or talking to somebody.

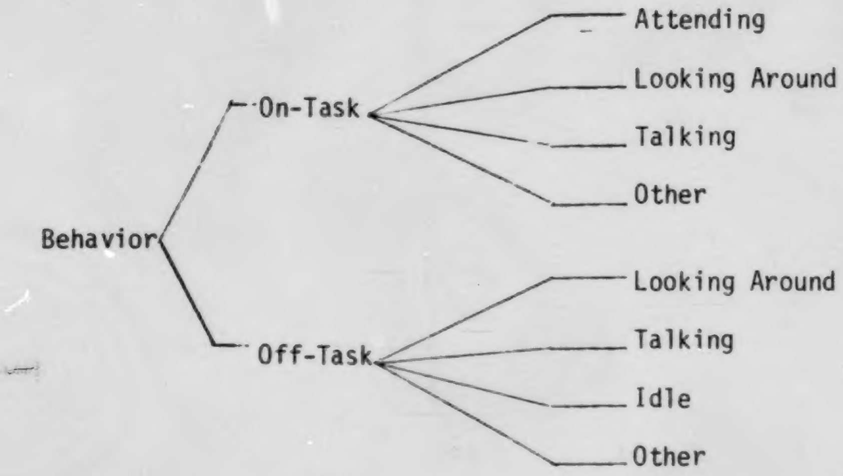
We can go on adding branches to the hierarchy, as shown in this expansion the "talking" branch:


Talking
Co-Worker
Self-Initiated
Other Initiated
Staff
Self-Initiated
Other Initiated

A branching behavior hierarchy can be extended almost without limits until highly specific behaviors are identified. In other words, the procedure can be extended until the unique behaviors of an individual are identified and described.

The important thing to remember about a behavior hierarchy is that it is a way of organizing behavior into increasingly more specific and detailed categories. If properly done, any behavior observed in an individual can be placed at one, and only one place in the hierarchy.

The behavior hierarchy used in the present research is:


Behavior
On-Task
Attending
Looking Around
Talking
Other
Off-Task
Looking Around
Talking
Idle
Other

Operational Definitions

The provision of a hierarchy such as this represents only a portion of the necessary information required to bring objectivity, validity, reliability and practicality to an observation system such as Point Sampling. Objectively, which eventually leads to adequacy within the other properties, "depends ultimately on the clarity of the category definitions used" (Medley, 1975). The clarity of the definition of behavior hierarchy categories aids the observer in the decision-making process of behavior coding. These operational definitions are used: (a) to insure that categories are mutually exclusive, that is, do not overlap, and are all-inclusive; (b) to make explicit the critical differences among categories; and (c) to make cues for discrimination as simple as possible.

The behavioral hierarchy represents the primary behaviors which would be expected to occur in a work setting. A similar process occurs in coding for specific behaviors which may fall within any single branch (e.g., On-Task Talking: with supervisor; with co-worker). The system, at any level of specificity, requires that all behaviors which could be exhibited in the setting, be covered by a branch (exhaustive). Each branch in the system is required to be mutually exclusive (nonoverlapping) to meet objectivity, validity and reliability demands. To accomplish this aim, operational definitions for each branch have been stated.

Sampling

The observation system described in this research is based upon frequencies: how often a particular behavior is observed. It requires the use of a specific observation technique called "point sampling" since behavior is sampled at different points in time. In this technique, a small number (8) of pre-defined, observable behavior categories are used. These are listed on an observation sheet. The observer establishes a periodic and systematic schedule for making individual observations. Each time an observation is made, the observer looks at the individual just long enough to identify the behavior being displayed by the person. A code is then recorded in the appropriate block on the observation form.

Present Research

The concerns of the present research were to improve upon the previously developed Point Sampling approach and to apply this systematic observation approach to situations which would provide information regarding potential relationships between worker behavior and performance measures.

7. Objectives. The specific objectives, implied assumptions and related research questions addressed by this research were:

    a. To determine the reliability of observers utilizing the Point Sampling approach.

    b. To determine the validity of the on-task/off-task behavior hierarchy. The content validity of the behavior hierarchy can be verified in terms of the amount of behavior that can be accounted for by the three specific categories under the on-task and off-task branches.

The "other" categories under each branch are designed to make the hierarchy inclusive of all possible behaviors that may occur in a work setting. The lesser the percentage of behaviors being classified as "other", the more valid the behavior categories included in the hierarchy and their respective operational definitions. These conditions reflect the criteria of mutual exclusiveness and exhaustiveness that is required of an objective behavioral observation system (Medley, 1975). For the purpose of this research, the behavioral coding system will be considered valid if 5% or less of the behavior coded falls into the "other" category. Revisions to the behavioral classification hierarchy can be made in applied settings that may prefer to use other categories or operational definitions, by rewording of the definitions or manipulating the scope of coverage of categories. A maximum of 5% of behavioral occurrences falling into either of the "other" categories is necessary so that specific information utilizable in the assessment and monitoring of client performance can be achieved.

c. To determine the reliability of Point Sampling intervals. Theoretically, the client at any specific point in time is on-task or off-task. It is not possible to observe on a continuous basis and record at the same time. Nor is it practical to observe and record behavior, say for example, every 10 seconds during the work day. As the interval between observations increases (i.e., the interval of point sampling), less reliable estimates of the true on-task/off-task percentages occur. Reliability may be viewed as the degree of consistency and stability (accuracy) between measurements in a series or by a test. In the case of Point Sampling, the two major concerns are the reliability as a function of: (1) observers; and (2) sampling procedure. The reliability of raters will be the degree of inter-rater agreement achieved with raters utilizing the same behavior observation schedule, with the same client at the same exact time period. The reliability of the procedure used to implement Point Sampling will be determined through comparisons of the three prescribed methods of scheduling (i.e., random observations vs. fixed-single observations vs. fixed-blocked observations) in terms of the relative levels of measurement error inherent in each.

d. To determine the required number and density of observations. Binomial probability theory and the principles of random sampling (Nunnally, 1967; Hays, 1973) provide a method of determining minimum sample size (in this case the number of observations required) required to reach a specified confidence level with pre-established error of measurement parameters. These procedures are built upon both random sampling of the domain of behavior (observation scheduling) and upon random occurence of behaviors in the domain (each even has an equal likelihood of occurrence at any specified point in time). Although actual behavior exhibited by individuals is not generally believed to follow a random process, since behavior is often purposeful and generally groups itself at points in time, these concepts still may provide information regarding the accuracy questions surrounding the Point Sampling approach. Random observation scheduling in industrial situations have proven useful in determination of competitive time standards and productivity ratings(Brisley, 1963). However, this process also opens up the possiblity for rater bias and error, such as missed observations and fatigue (Wasik and Loven, 1980).

For the purposes of this study, two major sources of error in the Point Sampling approach are to be investigated: (1) that associated with the technical procedures specified for the approach; and (2) that which is related to actual application. Determination of appropriate Point Sampling procedures and comparisons between several methods of observational scheduling already posed, will be investigated by computer-based simulations. Predominantly addressed in this initial phase of the study will be the amount of error inherent in each approach. This phase will provide information relevant to the maximum reliability that can be achieved by the Point Sampling approach, assuming that a perfectly reliable rate is applying the technique. This information will then provide guidance for selection of the most appropriate manner for implementing the Point Sampling approach, although alternatives will be discussed as outcomes of the research. In the second phase, implementation in line with the outcomes of the computer simulation will further allow for investigation of the error inherent in raters using the suggested system.

Specific research questions guiding this segment of the study include:

. What number of observations are required to insure that acceptable confidence and minimal error of measurement can be placed in the estimates of behavior occurrances developed through application of the Point Sampling approach with individuals?

. How does variation in the relative frequency of on-task/off-task behavior occurence affect the number of observations required to reach acceptable confidence and error considerations?

. How does variation in the number of behavioral categories used in the hierarchy and the relative frequency of each affect the number of observations required to gain acceptable confidence with minimal error in measurement?

. How does variation in the density of behavior observations (interval between observation sessions; number of "points" within sessions; random or fixed scheduling of sessions) affect the reliablity of estimates of an individual's actual on-task/off-task percentages?

e. To determine the relationship between on-task behaviors and production rate. By definition, no progress on a task is made unless the individual is engaging in on-task behaviors. Theoretically, then the more the individual is on-task, the greater the number of pieces produced (i.e., the higher the production rate). It is not assumed that 100% on-task behavior would necessarily increase production to the maximum. It may be, as common sense would dictate, that some off-task behavior is necessary for maximum functioning. Likewise, the extent to which the individual exerts effort, the fluidity of their motions, and the level of skill attained may furhter influence the relationship between on-task behavior and production output. Thus, a linear relationship is not expected, but a positively accelerating asymptotic curve is more likely. Production rate will be measured at the end of each hour and given as the percentage of actual pieces produced to an industrial standard for that task. The industrial standard may be predetermined through time studies of the task or through application of Pre-Determined Elemental Time Standard procedures (e.g., MTM, MODAPTS, MSD, etc.).

The research question guiding this segment of the study is:

. Does production rate increase directly with increases in the estimated percentage of total on-task behavior?

f. To determine the relationship between on-task attending behaviors and production quality. Individuals can make progress on a task even though they may be momentarily looking around, talking, or engaging in some other type of activity which is not incompatible with the motions necessary to the task. Though progress is made in terms of production, errors may occur because the individual is not attending fully to the task. The assumption to be tested is whether the higher percentage of on-task attending, the higher the quality of production. Quality of production is defined as the number of errors during a set period or time. Criteria for errors will be defined for each task prior to collecting the data.

A research question guiding this segment of the study is:

. Does production quality increase directly with increase in the percentage of on-task attending behavior?

g. To determine the utility of the On-Task Production Rate (OTPR) Estimate. The On-Task Production Rate estimates the individuals' increase in production rate if all off-task behaviors are eliminated. This estimate is calculated by the following formula:

$$\text{On-Task Production Rate \%} = 100\% \times \frac{\text{Current Production rate \%}}{\text{Current on-task \%}}$$

The formula is based on certain assumptions. It is assumed that as a client's off-task behavior is reduced, it will result in a higher on-task percentage. If a client's on-task percentage is increased, it is assumed that the production rate will increase, since more time would be spent on the task. It is also assumed that if a client spends more time on-task attending, the quality of production will increase, since more attention to detail will occur. If you estimate the OTPR from on-task production percentages at one point in time, estimates later in time should remain relatively constant. Thus, the criterion of utility of the OTPR measure will be the stability of the measurement at different intervals of time. It is plausible that other factors, especially practice or individual work pace, may make the OTPR estimate invalid. It may be possible to factor out practice effects to increase the validity of the OTPR. Also, the relationship between on-task behaviors and production rate may affect the OTPR estimate. If this relationship is specified, it may be possible to correct the OTPR formula accordingly.

Research questions guiding this segment of the study include:

- How accurate and stable is the On-Task Production Rate (OTPR) as an estimate of an individual's expected production rate as off-task behavior is eliminated?
- How useful is this measure in adjustment programs?
- Are these relationships useful for clients in general?

h. To develop and field test training materials based upon research findings and pilot test information gathered in applied settings.

Included as part of this segment of the study will be information regarding the following questions:

- What assests and limitations of the alternate methods of implementing Point Sampling were evident in its implementation in applied settings?
- What modifications to the approach would further enhance its utilization while maintaining its technical accuracy?
- What should be the content of a training manual and related audio-visual support materials that could be developed on the basic Point Sampling approach, which would aid in development of observer competence?

8. Methodology

To address the objectives and answer the research questions posed in Section 7., Objectives., the methodology for this study necessitated that several diverse activities be carried out. Organization of these activities, both conceptually and procedurally, required that they be phased according to major intents of the study. Three phases to the research methodology were proposed and carried out: Phase I-primarily addressed conceptual issues relating to the accuracy of the basic Point Sampling approach (such as the timing of observations, effect of increasing the number of behavioral categories on accuracy of estimates, etc.). This phase also allowed the researchers to provide an ideal approach (a mixture of the best technical approach tempered by practical limitations in applied settings) to be utilized in the next phase, wherein actual rehabilitation facilities were utilized to test and refine the Point Sampling approach prior to release to the field; Phase II- The application of ideal procedural considerations in a variety of rehabilitation facility settings took place to further refine the Point Sampling approach and to collect data that could be utilized in answering the research questions posed in

Section 7 ; and Phase III- The development and field testing of training materials that could be utilized in the preparation of behavior observers utilizing the Point Sampling approach.

The study objectives addressed within each of the phases listed are as follows:

Objective		Phase	
	I	II	III
a. To determine the reliability of observers utilizing the Point Sampling approach		X	
b. To determine the validity of the on-task/off-task behavior hierarchy		X	
c. To determine the reliability of Point Sampling intervals	X	X	
d. To determine the required number and density of observations	X	X	
e. To determine the relationship between on-task behaviors and production rate		X	
f. To determine the relationship between on-task attending behaviors and production quality		X	
g. To determine the utility of the On-Task Production Rate (OTPR) Estimate		X	
h. To develop and field test training materials based upon research findings and pilot test information gathered in applied settings		X	X

Overlap in activities addressing several of the objectives were expected and occurred during the conduct of the research. Further specification of methodology for each of the three phases are stated below.

Phase I

Rationale. The initial phase of the study involved the use of a Monte Carlo computer simulation (see Center Progress Reports #7 and #8) of behavior observation scheduling, to arrive at an estimate of the inherent error attributable to several methods of observing (Trumen, 1977; Sobol, 1976; Bennett and Wisinger, 1974). This approach was felt to be justified since a completeclient behavior pattern would be known to the researchers for determination of accuracy of scheduling approaches, which could not be accomplished in actual program or laboratory settings. This technique was further utilized in Phase II of the study, during the actual application of the Point Sampling approach in rehabilitation programs, for investigating the error attributable to observers, relationships existing between on-task behaviors and productivity measures, and to evaluate the practicality of the approach under realistic conditions. Investigation of the accuracy of modifications to the initial Point Sampling approach occurring during application in programs, further justified the use of the Monte Carlo computer simulation as a tool for analysis and decision-making.

Subjects. No subjects were utilized in this phase of the study. A computer-based Monte Carlo simulation of behavior observation scheduling was developed to: (1) determine the reliability of Point Sampling intervals (Objective c); and (2) to determine the required number and density of observations (Objective d) that would be utilized in Phase II (application in rehabilitation programs) of the study. From the resulting data, the most accurate approaches toward implementation of a behavior observation schedule were determined and considered for further implementation in the study.

Design. The basic design of this phase was that of repeated measures on a pre-defined behavioral domain. This domain consisted of 108,000 coded observations (codes representing each of the eight categories of behavior in the Point Sampling Hierarchy). Each coded observation represented a one-second interval (time-frame) of behavior, total observations representing the continuum of behavior exhibited over a five-day (6 hours per day) work week.

Procedure. No data from applied settings were collected in this phase of the study, rather a behavior domain representing random occurrences of the eight behavior categories used in the Point Sampling hierarchy was developed. Each category of on-task and off-task behavior were assigned equal probabilities of occurrence (p - .125). The sequence of assignment of behaviors represented actual occurrences of behavior according to a real-time sequence (e.g., first coded behavior selected represented the behavior occurring during the first one-second interval during the first hour on Monday, the second behavior representing the second one-second interval on Monday, etc.). The use of random assignment and equal probabilities of occurrence of specific behaviors (e.g., on-task attending) was necessary to the construct of the "worst" case in term of behavior patterns exhibited by a client. The mean and standard deviation of the duration for each category of behavior was pre-set to equal the length of the observational block of intervals between individual observations, as scheduled. This duration of behavior further specifies the "worst" case in which behavioral observation techniques, such as Point Sampling may be expected to be applied. This situation required that the largest number of observations be made to reach desired confidence levels and to minimize errors. Several methods of scheduling behavioral observations (random-individual, fixed interval-individual, random block and fixed block observation scheduling) were the major types involved.

Phase II

Rationale. This phase of the research study focused on implementation of the most reasonable and technically accurate observation approach, identified in Phase I, to be implemented and refined within actual rehabilitation program operations. Five distinct programs, within three rehabilitation facilities, were chosen to participate. Further clarification of alternative approaches of Point Sampling would be developed through a carefully monitored process of observer training, implementation, debriefing, refinement, and concensus between facility staff and researchers. Through these activities, a technically accurate and practical view of alternative manner of implementating a behavioral observation approach, such as Point Sampling, would result.

Subjects. Within this phase, subjects consisted of three rehabilitation facilities (Opportunity Workshop, Inc.; St. Paul Rehabilitation Center; and Minnesota Diversified Industries, Inc.) from the Minneapolis-St. Paul metropolitan area, with programs and staff members from each of these sites selected for participation by their respective administrations in consultation with researchers from the Center.

Facility staff members took part in an initial four-hour training session on the Point Sampling approach, at the end of which rater accuracy on several slide-tape exercises were computed. Further, each participant continued their involvement in the study through practice sessions with actual clients, application of the Point Sampling method in actual program settings, data collection and feedback sessions. Alternative applications of the Point Sampling approach in different facility and program settings (e.g., Vocational Evaluation, Vocational Adjustment, Extended Employment, etc.) were developed and evaluated.

Design. This phase served both as a research and demonstration activity. Specifically, project objectives addressed by this phase included those listed in Section 7. Objectives., under a - h sub-headings. Briefly stated, those objectives were: (1) to determine the reliability (accuracy and agreement) of observers utilizing the Point Sampling approach; (2) to determine the validity of the on-task/off-task behavior hierarchy; (3) to determine the reliability of the Point Sampling intervals (observation scheduling approach); (4) to determine the required number and density of observations (type of schedule which is most practical and technically accurate); (5) to determine the relationship between on-task behaviors and production rate; (6) to determine the relationship between on-task attending behavior and production quality; (7) to determine the utility of the On-Task Production Rate (OTPR) Estimate; and (8) to develop and field test a tentative manual and training aids which could be utilized in further training of observers using the Point Sampling approach.

With regard to these objectives, specific activities took place. Initial measures of the reliability of raters were accomplished first through: (1) computation of individual scores on a slide-tape exercise included as part of the initial observer training activities and (2) through computation of the level of agreement reached by two-raters observing the same client at the same time. The latter comparisons were to be undertaken during practice sessions taking place between the end of the initial training session and the implementation of the Point Sampling method for a two-week period. Further, information provided by participating raters during feedback sessions would provide input relative to needed modifications to the Point Sampling approach that would make it practical and enhance its chances for adoption into actual facility operations. Data collected by participants during implementation phase (e.g., behaviors, production rate, production quality, etc.) followed a primarily repeated measures design. These datum would be pooled and used to investigate relationships between productivity levels with the extent of on-task behavior(s) being exhibited by clients.

Procedure

The procedures actually used in the project involved a complex agreement between the R&T Center and the participating facilities. The details of the procedures are contained in last year's Progress Report (#8) and are available upon request.

Phase III

Based upon findings of the previous two phases, training materials will be developed for the refined Point Sampling approach. Training packages will be developed and field tested as part of present Center training activities in Vocational Evaluation and Work Adjustment.

Instructional materials will be evaluated and modified prior to dissemination to insure that a practical, valid and reliable approach is presented and that adequate reliability of observers occurs during the training phase. Motion pictures or video-tapes developed during this phase will be used to provide observers with situations that are similar to actual conditions in which the approach would be implemented. The Materials Development Center at the University of Wisconsin-Stout will review the training packages for developing an appropriate training format for dissemination to a wider audience.

July- 1980-June 1980	See previous years progress report for the preceding steps.
July- September, 1980	Develop and implement computer programming to aid in analysis of data collected in facilities. Enter raw data onto storage files (tape) and edit prior to beginning of analysis. Analyze data and review results.
September- October, 1980	Develop additional programming for analysis according to results from initial attempts (July - September). Process data collected in facilities.
November, 1980	Present report on progress to Center and other rehabilitation researchers at a research conference convened by Mankato State University (Minnesota) -Department of Rehabilitation

	Counseling and Mankato Rehabilitation Center. Discuss findings and implications. Review input and project data prior to developing drafts of project reports and training materials.
December, 1980- January, 1981	Develop drafts of research progress report, training manual and project monograph.
February- March, 1981	Complete drafts of research project reports and drafts of training manual.
March- April, 1981	Complete follow-up on final implementation phase by facilities and review of monograph and training manual drafts by participants.
May, 1981	Complete final drafts of research reports. Continue modification and development of training materials (manuals, slide-tape series, video-tape, etc.).
June, 1981	Release and disseminate training materials and project reports.

9. Relevance of the Problem

To Center's Mission Area

This study addresses the research area of Vocational Adjustment. The Center's Advisory Committee requested the Center to conduct research into the area of adjustment services. Much of the basis for this project was derived from past research and training efforts of the Center, during which a basic observation system was developed to quantify behaviors in Vocational Evaluation (See Process and Outcomes of Vocational Evaluation in Center's Progress Report #5). The research is viewed, not only as applicable for immediate benefits for adjustment clients and service personnel, but also for addressing the issue of behavioral change techniques which is a high priority issue under the programmatic line of research in Vocational Adjustment.

To Rehabilitation

The project deals with a practical problem in Vocational Adjustment programs, that of the measuring and monitoring of behavior during the intervention strategies. The development of a behavioral observation system such as this not only provides a significant technique for conceptualizing client problems, but is also an excellent basis for building staff competencies in behavior identification and analysis. This project deals with the restoration and training goal in the National Institute of Handicapped Research (NIHR), - Research and Evaluation Strategy. This topic is an application of prior Center research in behavior observation of clients in Vocational Evaluation to problems of client observation in adjustment services.

10. Patient/Client Characteristics

Rehabilitation clients participating in programs within each of the three facilities identified for inclusion in this study did not serve as subjects. Rather, program areas (e.g., Vocational Evaluation; Work Adjustmnet; Work Adtivity; nd Extended Employment) and facility personnel (e.g., evaluators; floor supervisors; trainers; etc.) served as study subjects. A total of five programs and 28 staff members participated in this study (Opportunity Workshop Inc., St. Paul Rehabilitation Center, Minnesota Diversified Industries Inc.,). Staff members were involved in the initial training, implementation, data collection and feedback sessions conducted as part of Phase II of the study. No subjects were used in Phase I, rather a computer simulation of client behavior pattern and observation scheduling was used to generate the appropriate data. Within Phase II, the signed cooperative research agreement with each facility served as an informed consent and release form for the participating programs and staff members. Facility administrators and staff members were informed of safeguards to confidentiality and their ability to review the final reports of the project prior to publication and release. All data would be reported in collapsed performance in the various aspects of the project.

11. Current Year's Activities

All data collection and analyzation has been completed and rough drafts of a research monograph and training manual have been completed. The present efforts are the refinement of these products and inclusion into training conducted by the Center. The results have not been fully interpreted for final dissemination strategy under this project of research - materials development - and training. Following is a brief summary of selected findings.

Fixed block observation schedules, such as the 5 and 10 minute block approaches used in Point Sampling, allow the rater to obtain fairly accurate (above 90% accuracy) estimates of client behavior patterns in a limited number of observations (usually within the first 4 blocks of observations). Variation in accuracy does occur, however, particularly when the durations of behaviors increase beyond the length of the observation block used in the approach.

At the completion of initial training on behavior discriminations, individual raters were found to achieve significant levels of accuracy on the first administration of a static, slide-tape presentation of behavior categories (78.6% of the raters achieved an 82% accuracy level or higher, with 100% of the raters achieving an accuracy level of 72% or higher). Raters were extremely accurate in distinguishing between 4 types of on-task behavior (85.7% achieving an accuracy level of 92% or higher) and satisfactory accuracy on 4 off-task behaviors (onl6 53.6% achieved a 92% accuracy level or higher; 100% achieving 72% or higher).

At the end of initial training, raters were found to agree in their assignment of behavior ratings as follows: on-task vs. off-task behaviors = .970 level of agreement; on-task behaviors (4 types) = .964; off-task behaviors (4 types) = .896; total agreement = .943.

Based on type of service program, facility characteristics and clientele being served, numerous modifications to procedures were made to facilitate usage and implementation. Basic procedures of the Point Sampling approach were found to be of value to each facility. Modifications to data collection forms, scheduling and reporting were considerations for facilities and programs.

A need for a continuous behavior pattern to be utilized in training was found to be needed. A movie or video-tape would give a better indication of rater competency at: the end of training; during data collection; and at the end of data collection. Use of such as assessment device would aid in determining the on-going accuracy of raters as they continue to use the Point Sampling approach. Additional work is being undertaken to develop this training monitoring tool.

Raters and facility administrators found that the information provided through the use of Point Sampling was objective, useful and timely. It confirmed or provided information which was utilizable in diagnostic and planning activities for meeting the needs of the client.

Specific feelings of practitioners expressed during follow-up sessions were:

The Point Sampling approach and many of its assumptions are useful in assessing and monitoring the behavior of clients in a variety of rehabilitation facility services (Vocational Evaluation, work activity, work adjustment and extended/sheltered employment).

Reduction of the number of behavior categories utilized in the Point Sampling hierarchy from 8 to 5 (elimination of all on-task behavior caetgories except for the on-task category) will aid in improvement of observer accuracy and will provide the most useful information regarding client behavior in a work setting.

The presently recommended observation schedule (10 minute block each hour, 10- second intervals between observations within the block) is frequently too cumbersome to implement over extended periods of time for a limited number of clients. Several alternative methods of observation scheduling may be implemented with estimates of occurrences reaching high levels of accuracy in a relatively short period of time.

Observers have difficulty in conducting unobtrusive observations on clients in applied settings and require additional training in manners by which this problem may be overcome.

Although it has been observed in this study that complete control over the wide variety of error producing variables cannot be easily accomplished, a systematic procedure such as Point Sampling and the training package accompanying it, can provide rehabilitation facilities with a method of collecting valuable information on clients receiving treatment. Although relationships between productivity and behavior pattern appear to be elusive, a systematic manner of collecting these data can be beneficial to facilities in their provision of relevant services (e.g., work adjustment, skill training, etc.) to individual clients. Data derived form application of the Point Sampling procedure is found to be quantifiable, timely and relevant to the appropriate provision of vocational rehabilitation services by direct-service providers.

Improvement of the methods professed for Point Sampling will be included in the final training materials that are presently being developed for this project. Results of the application phases of this research will be included in the development of the final training materials and research project report.

Presently, a video-taped segment of client behavior that may be utilized as a training competency measure and monitoring device in the implementation of the Point Sampling approach is being developed as a master's thesis (see Center Progress Report #9, Project R-30, Carlson, L.) at the University of Wisconsin-Stout. The reliability and validity of this training device will be assessed as part of the study.

12. Dissemination of Findings

Findings of the project will be disseminated via the following means:

A. Center Research Reports. Results of all data analyses will be disseminated in specific Center research reports. These will be sent to all state agencies, professionals within the area of Vocational Adjustment, and to abstracting publications.

B. Journal Publications. Significant findings and implications will be prepared for journal publication and submitted to, the Vocational Evaluation and Work Adjustment Bulletin, Journal of Applied Behavioral Analysis, and others as appropriate.

C. Training and Implementation Reports. Findings will be incorporated into Center training programs in Vocational Adjustment and special training programs will be built around these findings. Additional, brief reports such as RTC Connections, will be prepared to assist practitioners to implement the findings. Training on Point Sampling will be conducted utilizing the materials discussed in this research report.

13. Utilization of Findings

The findings will be directly utilized in several ways. First, a training program will be developed to enhance the competencies of Vocational Adjustmnet staff in the area of behavior identification and analysis. An initial training program on Introduction to Point Sampling has indicated the success of using lecture, text, and audiovisual aids in teaching observational skills in Vocational Evaluation. The information from these efforts and this project have resulted in a training package designed to enable adjustment personnel to implement individualized, behaviorally oriented, vocational programs. The training programs are being field tested at various sites during the developmental staff.

Secondly, the research findings are being evaluated in terms of their significance for Vocational Evaluation and Adjustment, the need for further research, and their impact on the Center's mission area and rehabilitation in general.

Third, the competencies of adjustment personnel to successfully identify, monitor, and evaluate the vocational behaviors of clients will be identified. This research is expected to provide information relating to the need for adjustment personnel to have such competencies; therefore, these data will be submitted to the various professional groups studying curriculum for training work adjustment personnel.

Fourth, the concepts of behavioral hierarchy, Point Sampling, and establishing reliability and validity estimates of these concepts is important in terms of impact on educators and researchers in a variety of disciplines (psychology, sociology, education, etc.). Such a system would be applicable to other areas of functioning of the individual in a variety of "tasks" and settings.

14. Policy, Program, and Practice Changes

The findings of this study will have its major impact on the practice of adjustment programs by enabling staff to:

1. Have a flexible observational and conceptualization system with which to build effective treatment strategies.

2. Identify and measure the vocational behaviors of clients.

3. Monitor behavioral indices associated with intervention strategy.

4. Make changes in intervention strategy during implementation of the strategy rather than at the point of termination.

5. Be able to quantify behavior and effectively communicate the level of vocational functions to other professionals.

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RESEARCH PROJECT REPORT Project No. R-43

1. Title Resources for Competency-Based Training of Adjustment Personnel: A Joint Research and Training Project.

2. Project Status (Check):

Proposed ___ New ___ Continuing x Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 7/79 mo/yr Expected Completion: 12/81 mo/yr Completed: ___ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Fredrick E. Menz, Ph.D.	Measurement & Assessment	35	25
Charles C. Coker, Ph.D.	Psychology	5	5
Vacancy	Computer Specialist		5
Clerical		15	15

5. Financial Data:

Estimated Cost From Beginning to End of Project: 77,420

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	16,321	15,406	2,207	1,642			18,528	17,048
Supplies and Other Expenses	3,861	2,292					3,861	2,292
Travel	1,455	1,013					1,455	1,013
Equipment								
Indirect Costs Allowed by DE	3,246	2,807	6,760	5,118			10,006	7,925
Total	24,883	21,518	8,967	6,760			33,850	28,278
Percent	73	76	27	24			100	100

*For report year and continuation year

6. Statement of the Problem

Purpose

Assuring high quality evaluation, adjustment, counseling, and placement services to persons with handicapping conditions is the fundamental concern of the entire rehabilitation community. A major determinant of service quality is whether or not the personnel who provide them to clients are competent.

The widely accepted vehicle for training service delivery personnel is the long-term or pre-service (university undergraduate and graduate) and short-term programs sponsored by the Rehabilitation Services Administration. Such acceptance is based upon their general effectiveness. Their continued effectiveness in meeting the professional needs of trainees and of the specific service areas, though, will hinge upon training having accurately resolved six issues: (1) whether there are agreed upon competencies for the professionals; (2) who it is that needs training; (3) how these potential trainees view their roles and functions in service delivery; (4) in what areas they have immediate and long-term training needs; (5) what type of instructional formats (methods and training programs) are most appropriate to provide the needed training; and (6) whether appropriate training resources (materials, literature, personnel, dollars) exist or can be developed to meet individual trainee needs.

Those six issues are central to development of appropriate curricula and training for any profession. The first four relate to the needs of the "audience(s)" of training and can only be resolved through research. The last two issues relate to developing appropriately targeted curricula or training. They can only be resolved once the first four are properly resolved.

Adjustment personnel are in the throes of clarifying their responsibilities in the rehabilitation process and adjustment's place in the rehabilitation profession. In keeping with these efforts, the Rehabilitation Services Administration funded the Work Adjustment Curriculum Development Workshop (Coffey & Ellien, 1979) at this Research and Training Center. Through the workshop, Coffey, Ellien, and the project's steering committee attempted to obtain a definition of Adjustment, identify the roles and functions of the Adjustment Specialist, identify training needs of Adjustment personnel, and advance general efforts to develop and implement appropriate curricula for training Adjustment personnel.

A key part of the workshop was a national survey of Adjustment practitioners, administrators, and educators. That survey sought data on the essential abilities, skills, and knowledges (competencies) of an Adjustment Specialist and data on the present training needs of personnel engaged in delivering Adjustment Services. A large and representative national response to the survey was obtained and a national data base is now available on professional competencies and needs in one service delivery area, Adjustment. Preliminary analyses suggest that those data can be used to resolve the four critical issues underlying the development of proper Adjustment training programs. Too, if the analyses are focused directly on resolving the four issues, those results may provide the required empirical base around which resources and curricula for training Adjustment personnel can be coordinated.

The purposes of this project are two-fold. The first purpose is to resolve issues related to the "audiences" of training. Focused analyses of the national data are being undertaken to identify audiences of training, in terms of their educational and professional backgrounds, their perceptions of competencies needed to perform the roles and functions of an Adjustment Specialist, and their present training needs. The second purpose is to resolve issues related to developing appropriately targeted curricula and training. A major search and review of literature and training materials is being conducted to accomplish this. Those resources are being classified for the audiences of training and the professional competencies of the Adjustment Specialist. Particular attention is being given to identifying appropriate instructional formats (methods and types of training programs) for training competent Adjustment Specialists, to formulating an empirical curriculum model(s), and to identifying training resources requiring development.

Introduction

Development of curriculum for training rehabilitation service delivery personnel has neither been systematic, or followed from resolution of the six curriculum development issues which are basic to effectively training the members of any profession: (1) whether there are agreed upon competencies for the professionals; (2) who it is that needs training; (3) how these potential trainees view their roles and functions in service delivery; (4) in what areas they have immediate and long-term training needs; (5) what type of instructional formats (methods and training programs) are most appropriate to provide the needed training· a d (6) whether appropriate training resources (materials, literature, personne dollars) exist or can be developed to meet individual trainee needs.

The firs four issues relate the needs and concerns of the audience of the training while the last two relate to production of appropriately targeted materials and programs. Historically, we have given our energies to attempti g to resolve those later two issues without a clear understanding of the real options obtained from empirical investigations and resolutions of the first four.

Curriculum development has proceeded, in some respects, from stop-gap resolutions of those issues because the immediate need for service delivery personnel has been so great. The "best opinions" of a limited number of academicians and practitioners, as to how and in what personnel should be trained, have had to be relied upon. In most respects, though, this has occurred because the training needs of service delivery personnel have not been viewed from a national standpoint and have not been viewed as needs common to rehabilitation service "professionals." Empirical resolutions at a national level, therefore, have not been attempted. At best, regional resolutions of the issues have been attempted and regional needs have been the base upon which curricular or training endeavors have been designed.

In 1979, the Rehabilitation Services Administration funded a one-year training project at this Center to initiate the Work Adjustment Curriculum Development Workshop (Coffey and Ellien, 1979), a national level effort on one such delivery area. As part of the workshop, a national survey of Adjustment practitioners, administrators, and educators was conducted. The survey instrument was sent to every facility approved by its state vocational rehabilitation agency for purchase of services and to every member of the Vocational Evaluation and Work Adjustment Association. As part of the workshop effort, the survey was conducted to obtain accurate and representative, national input on the abilities, skills and knowledges important for the Entry-level Adjustment Specialist and the present training needs of adjustment personnel. Demographic data were also sought on the educational, vocational, and professional background of Adjustment personnel.

Analyses of the 1884 responses to the survey under the training project answered four major questions with respect to basic definitions and necessary competencies of Adjustment professionals (Menz & Ellien, 1979) and the immediate training needs of Adjustment personnel (Menz, 1979). Analyses leading to answering those four questions also highlighted the fundamental curriculum development issues which must be resolved if targeted, competency-based curriculum are to be developed for training Adjustment personnel. Appropriate, secondary analyses of the survey data can provide resolutions to key issues dealing with the needs of the "audience(s)" of training and can form the essential empirical base around which resources (literature, materials, personnel, dollars) for competency-based curriculum design, development, and implementation can be coordinated.

The first of the four questions answered through the study (also the first critical issue) was, "What are the core professional competencies needed by an Adjustment Specialist?" Analyses of ratings of importance of the ability, skill, and knowledge statements identified 19 core professional competencies. (The definitions of those competencies are contained in Appendix B.) They collectively represent both the broad and specific skills, abilities, and knowledges which the Adjustment field believes this specialist must have. The breadth of the competencies and focuses of their use in service delivery suggests a strong professional identity for the Adjustment Specialist in rehabilitation. The second question answered in the study was, "What is the role and function of the Adjustment Specialist?" The names and definitions of the competencies were reviewed to obtain a clear definition of role and function. Instead of finding a clear definition, the competencies were found to depict a complex relationship between the roles which persons in service delivery can perform (Organizational Roles) and several distinct types of activities in which they might engage (Operational Functions) when they perform those roles. (The cross-classification of the competencies by roles and functions is contained in Appendix B.) The finding that there was not a simple role and function performed by the Adjustment Specialist led Menz and Ellien to suggest that the Adjustment Specialist's "professional domain (in rehabilitation) . . .encircles the Adjustment role, incorporating all three functions of the Evaluation and the Placement roles, and the delivery function of the Administrative role." (1979, p. 22-23). The third question answered was, "What is the role and function of the Entry-level Adjustment Specialist?" Competencies rated as most important by respondents to the survey were reviewed to get an idea of (his/her) identity. In this Menz and Ellien concluded:

> "The Entry-level Adjustment Specialist is largely expected to be able to implement adjustment plans. . . using prescribed teaching/training, behavior modification and/or other change techniques. . .to be able to properly supervise clients. . .and utilize evaluative data. . .to modify treatment programs (or suggest modifications). . .during the course of the program . . .the identity of the Entry Level Adjustment Specialist is a technologist, in fact, appears to be emerging in this analyses." (1979, p. 24-25)

The final question addressed in that workshop/project was, "What are the present training needs of Adjustment personnel?" Percents of the respondents reporting a need for training on each competency were examined to determine the training needs. High needs were found on nine of the competencies. The five highest needs relate to competencies required to deliver a therapeutic Adjustment program to individual clients. The next four focus on background evaluation skills needed to structure the Adjustment situation and monitor and effect changes in personal-social behaviors of clients in work situations. Lowest needs focus on management and coordination of client work skill and work habit training in a situational or industrial context. (See Appendix C.)

When such demographic variables as educational level, source of Adjustment training, and work experience variables were individually examined and profiled in relation to the importance of the 19 competencies and the expressed needs for training on each, the fundamental curriculum development issues of "Who are the audiences of training?", and "What are the appropriate instructional formats for each?", were highlighted. While it was found that the vast majority of personnel were college educated, their college programs were heterogenous and the source of training in Adjustment was quite variable. One-third had university training in Adjustment, but the remainder were likely to have had no formal training or had received their primary training through short-term training programs. Further, while a vast majority had previously worked outside rehabilitation, almost two-thirds of them were fairly stable rehabilitationists, having worked over two years in rehabilitation and half having had five or more years experience in client service.

Should demographic variables like these be examined for their interactions, one would suspect that more light would be shed by identifying several audiences of training which require different instructional approaches. For instance, an audience with a strong rehabilitation preparation and a fair amount of experience may profit from a review-discussion approach in a somewhat familiar competency area or find packaged instructional materials an effective instructional format for developing a new competency. On the other hand, an audience with little formal training and experience may require several short, highly structured tutorial sessions spaced throughout 6 or 8 months in order to become competent in the same area.

When analyses were conducted to determine whether different groups of respondents viewed the importance of the professional competencies in the same way another fundamental curriculum development issue was highlighted, "How different audiences perceive their roles and functions or the priorities they assign to different sets of professional competencies." Perceptions of the importance of particular competencies held by different audiences can be expected to affect how training impacts upon practice. Reliable differences were found among the several groups studied, which suggests that different audiences perform their roles and functions in different ways, depending on the setting in which they work. For example, competence training in change strategies might have high impact on an audience which perceives its role and function in implementation of prescribed behavior change plans in a facility. Training for competence in staff supervision, however, would not very likely impact much on that same audience. In a similar vein, if one's training gives high emphasis to competence in personal-social skill development and one seeks employment in an agency where the administrative audience places its major emphasis on competence in vocational-skill development, little impact of training can be expected there on client's personal-social development. Analyses of perceptions of the importance of the competencies held by clearly identified audiences should provide resolution of this curriculum issue.

And when analyses of present training needs were conducted, two further issues were highlighted; the issue of "What are the immediate and long-term training needs of different audiences of training?" and the issue of "Whether there are the resources (materials, literature, personnel, dollars) to effectively meet those needs?" The series of informal analyses attempted to tentatively determine whether different needs existed in different parts of the country, between different types of settings and between people with different backgrounds. Major differences in intensity of need for training are found in different parts of the country and among people with different formal education and adjustment training backgrounds.

More formal analyses of the patterns of current training needs of different audiences should provide valuable resolution for the issue of audience needs and serve as a framework for attempts to resolve the second issue of availability of resources. Such focused analyses might reveal conditions such as the following: In states A and B, the audience needs competency training in very basic evaluation technologies, and this training can be efficiently provided by existing short-term training programs. The audience in those states is not currently ready for intense, high level training in competency areas dealing with complex client behavior change. However, case managers in states C, D, and E are non-rehabilitation, college educated and their present need is for an intense competency-based training program in client behavior change. A thorough review of present literature, materials, programs, and other resources might suggest that appropriate curricula must be developed before C, D, and E will have their immediate needs met or before states A and B will have their long-term training needs met.

In summary, then, there are six fundamental curriculum development issues which must be resolved if effective competency-based curricula and training are to be developed for adjustment professionals. The six highlighted from the research of Menz and Ellien (1979) and Menz (1979) and discussed above are: (1) whether there are adequately agreed upon competencies expected of professionals in Adjustment; (2) who it is that is in need of training; (3) how potential trainees view their roles and functions in service delivery; (4) in what areas they have immediate and long-term training needs; (5) what types of instructional formats (methods and training programs are most appropriate to provide the needed training; and (6) whether appropriate training resources (materials, literature, personnel, dollars) exist or can be developed to meet individual trainee needs.

Issues 1 through 4 relate to the audience of training and their needs. The first of those has been fairly well resolved in previous analyses of the survey data. A series of highly focused analyses of the survey data will provide the needed resolution to issues 2 through 4.

The last two issues are perennial issues which curriculum developers and training planners face. They cannot really be resolved until the first four issues are fully resolved. The results of those analyses will provide the strong empirical base which is needed for their resolution and which has been forestalling development of comprehensive competency-based training. The project also begins to resolve the two issues of instructional formats and resource availability by conducting an extensive search and review of existing literature and materials in Adjustment and allied disciplines and by relating those resources to the training audience competency needs identified in the research.

7. Objecitves

The goal of this project is to provide trainers and educators with resources for use in the design, development, and implementation of competency-based training for Adjustment personnel. Two research and development objectives are to be pursued in light of this goal:

1. To determine the needs and audiences of Adjustment training.
2. To organize existing resources (literature and training materials) for competency-based training of Adjustment personnel.

8. Methodology

Subjects

Subjects in this project are the 1884 respondents to the national survey of Adjustment personnel conducted between January and February of 1978.

Instrument

Data used in this project were gathered with the "Questionnaire on the Abilities, Skills, and Knowledges of the Entry Level Work Adjustment Specialist." Respondents to the Questionnaire were asked to indicate the *importance* of the 65 competency statements for the Entry Level Adjustment Specialist on a 5-point scale (1=Absolutely Essential, 2=Probably Essential, 3=Could be Useful in Some Specific Circumstances, 4=Probably Unessential, 5=Absolutely Unessential) and to indicate their own or their staff's *need for training* with respect to each competency statement. In the last section of the Questionnaire, respondents were asked to provide information on their geographic location and their educational, vocational, and professional background.

The questionnaire was developed by the Center as part of a one-year, short-term training grant (Coffey & Ellien, 1979). The 75 competency statements contained in the questionnaire resulted from comprehensive reviews of rehabilitation, psychology, and education literature and the input of significant practitioners, educators, and trainers. The questionnaire was mailed directly to each rehabilitation facility approved by its state vocational rehabilitation agency for purchase of services and was also included in the January 1978 edition of the Vocational Evaluation and Work Adjustment Association Newsletter. After a follow-up mailing to facilities, 86% of the total 1926 returned questionnaires came from the group to whom the questionnaires were mailed directly. Of the total returned questionnaires, 1884 were usable, a 98% usable return rate.

Principal components factor analyses of log-transformed ratings of importance to the 65 competency statements were conducted to extract the 20 primary factors. The 19 factors that were interpretable accounted for 70.4% of the variance due to response.

Procedures

Objective 1. Needs and Audiences of Adjustment Training. The three steps which are being followed to accomplish this objective are outlined below in an attempt to resolve curriculum issues 2, 3, and 4 discussed above. (Issue 1 has already been resolved.) Procedure A identifies initial *a posteriori* training audiences among the respondents to the survey. Procedure B determines the role and function expectations of the audiences. The third procedure determines similar and dissimilar training needs of the audiences. Procedure D leads to development of needs assessment instruments which can be used to define the needs of particular training groups. The results of these and previous analyses of the survey data will be reported in two Center publications. The first report, tentatively entitled "Audiences and Needs in Adjustment Training," will focus on a discussion of the first four curriculum development issues identified in the introduction of this proposal and also the results of these analyses under this objective and their relevance to the last two issues. The second report will be a technical report covering methods, statistical techniques, and statistical analyses of the survey data.

Procedure A. Training Audiences. The main analyses to identify training audiences examine professional, educational, and vocational characteristics of Adjustment personnel. Both empirical and logical procedures are used to identify these probable targets of training programs. Demographic characteristics were first grouped into logical clusters based both upon whether a characteristic might be accommodated in training or whether the characteristic generally was associated with another characteristic. Then, using a simple index of intensity of training need (i.e., the percent of the 65 questionnaire statements for which need for training was indicated), five anlayses of variance were successively conducted to isolate differences among respondents in terms of (1) their personal characteristics (VEWAA membership, sex, age); (2) their professional preparation (amount of education and source of training in Adjustment); (3) their work experience (amount of work experience in and outside rehabilitation and with clients); (4) the characteristics of their facility (their principal role, volume of clients and accreditation of the facility); and (5) the location of their employment (VEWAA region and size of city). On the basis of the reliable differences found in these analyses, specific clusters of persons are identified. These are then used as initial clusters in subsequent analyses to identify differential patterns of specific training needs and to identify differential perceptions of the Adjustment Specialist's role and function

Procedure B. Perceptions of Roles and Functions. Dominant groups (i.e., the audiences) identified above are the independent variable in analyses to determine common and dissimilar perceptions of the roles and functions of the Adjustment Specialist. The 19 dependent variables partitioned on the basis of audiences, are first submitted to discriminant function analysis (Roulon & Brooks, 1968; Tatsuoka 1970, 1971a) to determine whether there are systematic differences in perceptions of the competencies among the audiences.

Common and dissimilar perceptions of sets of the competencies among the audiences will next be isolated by comparing and contrasting the centroids for groups on each significant function derived through discriminant analysis. An extension of the procedures suggested by Tatsuoka for multi-group comparisons on multiple dependent variables (Tatsuoka, 1971a, 1971b) will be used to isolate audience perceptions.

Factor scores for the competencies will be transformed back to the 5 point scale with which respondents rated each of the original competency statements, using standardized weights from the factor analysis. Standardized weights from the discriminant analyses will then be applied to the transformed competencies to establish relative patterns of similar and dissimilar perceptions of roles and functions among the audiences. These patterns are examined by Research and Training staff to formally identify implications for training respective to the cross-classification of roles and functions obtained by Menz and Ellien (1979) and existing training resources.

Procedure C. Training Needs. Patterns of similar and dissimilar training needs among the audiences are identified in this step. Independent variables in these analyses are initially the same as those used above. Statistical procedures in this step will parallel those used in Step 2. The dependent variables in the analyses, however, are respondent's estimated needs for training under each of the 19 competencies and a composite index of need, based upon the weight derived in the factor analysis. In general, the statistical procedures parallel those used in Procedure B, except that the composite index of need is first submitted to an Automated Interaction Detection analysis (Sonquist, Baker, & Morgan, 1973) to identify groups having high priority needs for training.

Subsequent to the statistical analyses of differences and similarities of training needs among the audiences, patterns of training needs are examined by the Research and Training staff to identify resources potentially in need of development, to relate them to present training resources, and to identify appropriate instructional formats to meet them.

Procedure D. Training Needs Inventory. These activities lead to development of needs assessment inventory which might be used to profile training needs of a training audience or facility setting and to identify training priorities for an individual or organization. The instruments employ the content of the original questionnaire and build off the statistical findings from the above procedures. Two forms of the instrument are being developed (See Appendix D).

One form of the inventory is for use by persons who expect to go into training and a second is more generalized and can be used for screening. The first is based upon the 65 statements from the original survey. The second is based upon the competency factors. Simple profiling routines for scoring each form are being developed which will indicate perceived importance and training need among the 19 competencies. More complex profiling routines, based upon weighted classifications of respondents, may also allow normative scoring and classification of a group's or an individual's needs respective to different training audiences.

Objective 2. Resources for Competency-Based Training of Adjustment Personnel

The activities under this objective involve a major search and review of literature and training materials to begin resolution of curriculum issues 5 and 6. Two primary source documents for educators and trainers of Adjustment personnel will result from those: (1)"A Bibliography of Resources for Use in the Training of Adjustment Personnel." (2) "A Model for Competency-Based Training of Adjustment Personnel."

Procedure A. Training Resources. Preparation of a bibliography of training relevant materials catalogued under the 10 competencies required development of a procedure for systematically screening and classifying the vast literature of rehabilitation, education, psychology, and sociology. A "keyword" approach was selected as the procedure which will be most efficient in isolating the relevant literature and/or training aides. Key words were identified in the definitions attached to each of the competencies and searches of clearinghouses and other material retrieval systems were initiated using them.

Subsequenlty, a reasonably efficient format was devised to summarize and abstract the literature and materials most relevant to direct training of personnel with respect to a given professional competency. Each resource included in the bibliography for a competency provides (1) the full reference; (2) the key word in the competency to which it most relates; (3) the format of the material (e.g., text, journal article, film, training package); (4) the audience which will be able to use the material (e.g., trainer, trainee); (5) the most efficient source for acquiring the material (e.g., ERIC, NARIC, MDC acquisition numbers); and (6) general comments providing either a succinct abstract of what the material attempts to do or a general idea of how it could be used in training.

Identification, collection and annotation of material then was initiated with computer, phone, and/or direct searches through the Materials Development Center, NARIC, ERIC, the Oklahoma Clearinghouse of Rehabilitation Materials, Auburn University, Southern Illinois University, University of Wisconsin-Stout, New York University, City College of New York, Michigan State University, and the *Publication and Audiovisual Aides Directory*. Resources available from the Materials Development Center's holdings are being found to be most useful in this effort.

Procedure B. Instructional Formats and Models. With further aid of other members of the training staff, specific tentative curriculum units and model(s) will be advanced. Particular attention is given to basing the unit on training and learner objectives derived from one or more of the competencies focused on in a given unit. Each objective can be classified by appropriate taxonomic level of cognition, tentative level of mastery, and relative career level (e.g., entry level) and eventually may be used to develop appropriate assessment instruments. To serve as an appropriate example for curriculum development, the literature and instructional resources corresponding to one or more unit will be reexamined, annotated, and cross-referenced to each of the learner objectives, and a tentative training format(s) developed. These activities will result in one or more models.

Timelines

March, 1981	Complete perceptions of roles and functions analyses.
April, 1981	Complete training needs analyses.
May, 1981	Complete needs assessment profiling routines.
June, 1981	Complete "Audiences and Needs in Adjustment Training."
July, 1981	Complete "Training Needs Inventory."
July, 1981	Complete annotation of bibliographies for bibliography of resources.
August, 1981	Format the bibliography of resources.
August, 1981	Complete "Technical Report."

September, 1981	Complete models paper.
October, 1981	Publish and disseminate "A Bibliography of Resources for Use in the Training of Adjustment Personnel."
November, 1981	Publish and disseminate "Technical Report."
December, 1981	Publish and disseminate "Models for Competency-Based Training of Adjustment Personnel."
December, 1981	Publish and disseminate "Training Needs."

9. Relevance of the Problem

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also proivdes for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

From Figure 1, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, and R-50).

This project primarily relates to the Center's emphasis on improvement of Vocational Adjustment Services. As a research and training project, it will extend the efforts of the recently completed Curriculum Development Workshop conducted by the Center on Adjustment (Coffey & Ellien, 1979) and funded under a training grant from the Rehabilitation Services Administration. Under this

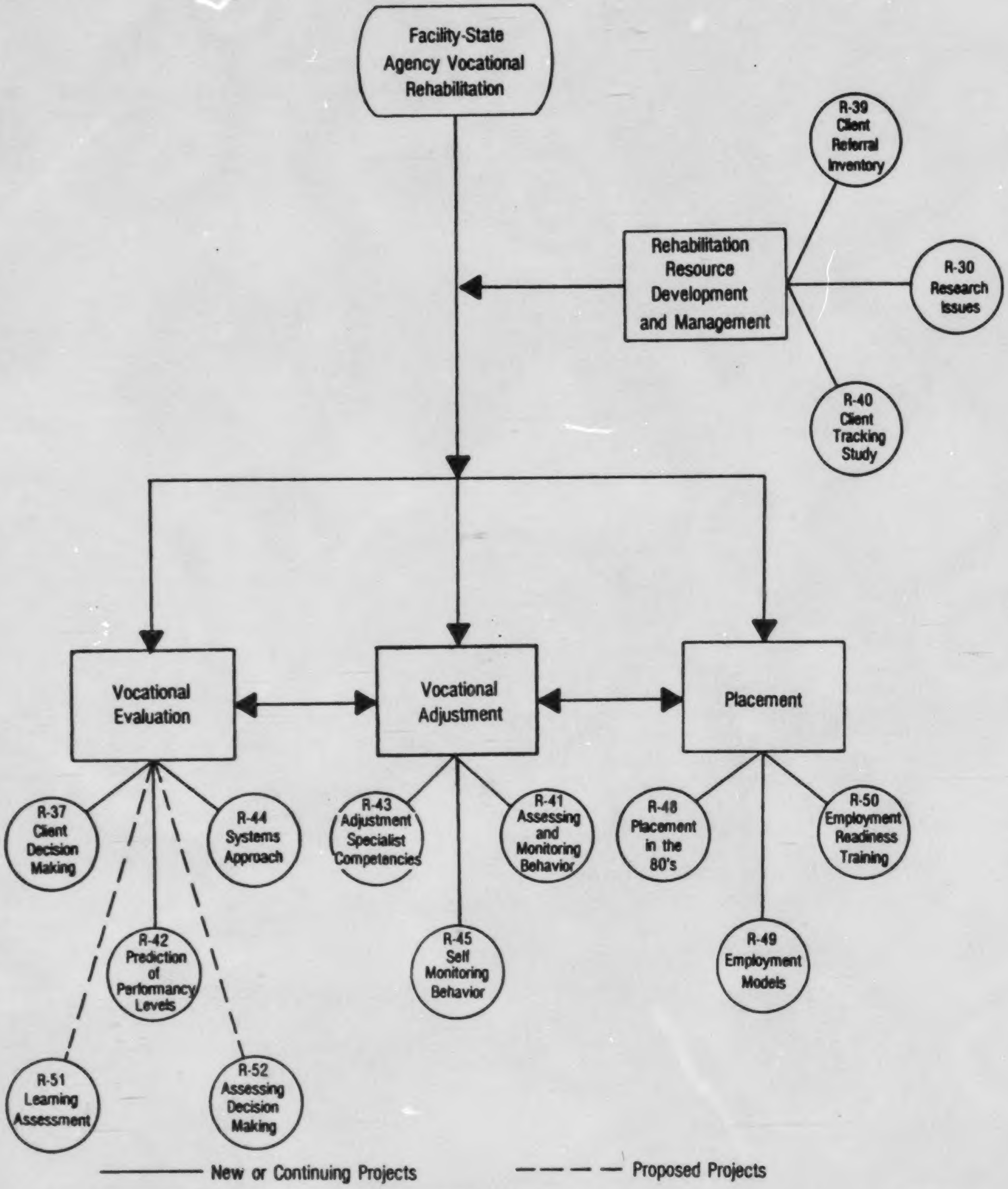
Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

project further analyses of the data obtained through that grant and conducted and applied to identify existing and needed training resources. In general, it is directed at aiding training efforts to improve the skills of personnel engaged in adjustment services in facilities by providing increasingly effective, comprehensive, and timely pre-service, in-service, and short-term training programs.

The project helps unify the common research and training efforts. It is expected to provide research with much needed data on personnel providing rehabilitation services and some indication of professional areas in which research, as well as training, is equally needed. Competency, training needs, and demographic data on professionals will be highly useful as training goes about planning present and future training programs in Vocational Evaluation as well as Adjustment. Training resources organized or developed from the project are expected to have direct and immediate benefit to the Center's ongoing efforts to expand, develop and target its overall and specific training programs for adjustment personnel.

To Rehabilitation

The quality of rehabilitation provided to persons with handicapping conditions is the fundamental concern of the entire professional rehabilitation community, the state-federal vocational rehabilitation program, and all consumer groups. A major determining factor effecting such quality is the competence of personnel (professional, paraprofessional, and administrative) working with persons with handicaps.

Well accepted vehicles for providing the rehabilitation program with appropriately equipped personnel are the programs funded by RSA to provide pre-service, in-service, and short-term training. While such wide acceptance is based upon the general effectiveness of these programs, continued development of appropriate training/materials has rarely proceeded from a consistent base of systematically gathered and analyzed data. Such data now appears to exist at a national level for one area. This project attempts to optimize the utility of those data and through systematic analysis and extrapolation, provide timely resources useful to educators and trainers for designing, redesigning, and implementing increasingly effective rehabilitation training programs.

10. Client Characteristics

Clients are not directly involved in this research utilization project. The primary long-term beneficiaries of the results, however, will be individual clients who receive services from Adjustment personnel that are more comprehensively and adequately trained to provide effective vocational, personal, and social Adjustment services to them.

11. Current Year's Activity

The four main activities simultaneously engaged in this year have concentrated on planning and developing the expected products of the project: (1) drafting initial forms of a training needs inventory; (2) continuing the training needs analyses; (3) developing annotated bibliographies; and (4) developing training units. The first two relate to progress in attaining the training needs and training audience identification objective. The last two activities relate to progress toward attaining the training resource and curriculum development objectives.

Development of a Training Needs Inventory. The Training Needs Inventory is to help practitioners and administrators clarify and set priorities among needs (See Appendix D). The TNI will be available in two forms: Form A, Training Priorities, is designed for use by administrators of Vocational/ Work Adjustment Programs who are planning for the training needs of their personnel. Form B, Role and Needs Analysis, is being designed for use by the rehabilitation practitioner in selecting training programs which will best meet their training needs. The two forms can be used separately or jointly.

An administrator uses the training priorities form of the TNI by considering what it is that they expect their staff to do in Adjustment, the goals and various processes of their Adjustment program, the more pervasive goals of their agency, the clients their agency serves, and their future plans for the agency in light of the 19 professional competencies of the Adjustment Specialist. First, the administrator considers "how important" it is for their staff to have an adequate knowledge or skill in the areas tapped by the individual competency if staff are to be effective with their clients. Next, they consider "how well developed" are the skills, abilities and knowledges of their staff in the important areas. Finally, they identify their fundamental "priority training needs."

Benefits are expected for both administrators and for development of better training. Administrators will (1) clarify the skills, abilities and knowledges expected of their staff if they are to provide quality services to their agency's clients; (2) identify those areas where staff have adequately and inadequately developed skills, abilities and knowledges; and (3) set priorities among the training needs of their staff. By comparing profiles against the Center's data bases on professional competencies and resources, these data can help us in (1) identifying existing training programs which may already be able to meet particular staff training needs; (2) plan modifications to present curricula; or (3) design more specifically targeted training programs.

An individual or group of potential trainees uses the Role and Needs Analysis form of the TNI by considering what it is that they do in their present job in Adjustment (or the job they plan to attain), the goals and programs of their agency, the clients they work with, and their career goals in light of 65 competency statements. First, they consider "how important" it is to have an adequate knowledge or skill if they are to be effective with the clients they serve. Next, they consider "how well developed" are their skills, abilities or knowledges. Finally, they identify the specific skills, abilities and knowledges which are their "priority training needs."

Use of this form should have benefits for both individuals, groups and the Center's ongoing efforts in curriculum development. By comparing profiles against the Center's data bases on the professional competencies and needs of other practicing adjustment professionals, detailed analyses of (1) the individual's or group's perceived professional role; (2) their training needs relative to their present or long-term professional goals; and (3) identification of training options available through the Center can be obtained.

Collectively, data from these can form a basis for targeting specific training programs and for identifying changes in the needs of rehabilitation personnel for training.

Training Needs Analyses. A new product was seen as needed and possible under this project (the training needs inventory reviewed above) and has provided an additional useful focal point for data analysis activities. Having developed compatible inventories, the analyses have taken into account both the initial intent of identifying appropriate training audiences (in terms of intensity of need, patterns of needs, and patterns of role expectancies) and the new corelary intent of completing basic routines for scoring and profiling individual and group responses to the inventories. Analyses started late in the reporting period have concentrated on identifying distributions of need intensity for comparison of individual and group profiles. Subsequent to completion of those analyses (which will provide targetable priority groups for training in Adjustment), the final analyses will yield routines for scoring and classifying the patterns of needs and patterns of perceptions which different groups of individuals bring with them to Adjustment programs.

Development of Annotated Bibliographies. Significant progress has been made this year in developing bibliographies for use in developing curriculum and training which are referenced to the 10 professional competencies for Vocational Adjustment. Originally, resources for all 19 competencies were to be identified and full annotation done for at least one competency. Activity last year was initiated by developing procedures for collecting and annotating resources and by partial annotation of resources for 4 of the 19 competencies. Activity this year has led to partial or full annotation of resources for the following 10 of the 19 competencies:

1. Specific Marketable Skills and Work Habits
2. Individual Client Programming
4. Behavior Modification/Change
6. General Client Programming
10. Principles of Human Behavior/Behavior Change
11. Personal-Social Development
14. Employment Opportunities and Client Placement
16. Teaching/Training Technologies
17. General/Specific Employment Acquisition Skills
19. Production/Industrial Operations

Selection of competencies for annotation in the current year was based upon ongoing needs of the Center's training section for relevant materials for conducting training and for developing specific training units. Between 40 and 50 references have been identified and are or have been annotated for each of the 10 competencies. The remaining 9 competencies will be completed this coming year.

Development of Training Units. Specific training units are currently being developed for use in the Center's short-term training programs in Vocational/Work Adjustment. Combined with the resource identification activities and the analyses which identify training audiences and their needs, these units will eventually be the basis around which curriculum models are formulated. This year, training staff have concentrated on identifying units (both in the Center's Adjustment and Evaluation training programs) which provide some coverage of specific competencies, competencies for which there is an immediate or long-term need to develop units, and initiating development of new training units which can augment existing training programs or become parts of new training programs in Vocational/Work Adjustment. Fourteen units for Vocational Adjustment training are identified, planned, underway, completed, or await redevelopment. Further, they do or will directly incorporate the findings of the project. They represent a major research utilization strategy as well as a process activity of the project (See Utilization Section).

For each of these units, a consistent format is followed so that content can be controlled. First, each unit has a source of trainer objectives, based upon the competencies and for which counterpart learners' objectives can be identified for a specific training group. Second, a detailed, but adaptable outline of the concepts, order and format for pursuing the objectives is provided. Thirdly, an extensive bibliography is attached. Fourthly, overheads, handouts and the most relevant training aids are provided to complete each unit. These, in turn, are backed up with materials and resources contained in the training division library.

12. Dissemination of Findings

Four key papers will be the prime products of this project (See Utilization of Findings) as publications of the Research and Training Center. Demographic characteristics, competency patterns, and training need patterns of Adjustment personnel will be summarized in the first paper. It should be of particular use in designing targeted training programs and, as a status report on the Adjustment field in the 1970's, it should also be of use as a benchmark when similar studies of the field are conducted in the future. Dissemination of this report will be through the *Interface* and research publication series and highlighted in the *RTC Connection*.

The next two papers will directly focus on application of research findings in the training and education of Adjustment personnel. Of these, the first would provide a bibliography tied to the 19 competencies, while the second would propose a competency-based curriculum model. The audience for these papers will be trainers and educators of personnel in rehabilitation and allied fields. Both papers will be widely disseminated to such groups through Center research and training publications. It is also anticipated that the curriculum model will be submitted for publication in such journals as the *Journal of Rehabilitation*, or *VEWAA Journal* and as a paper for presentation to professional organizations concerned with the training and education of rehabilitation personnel. Collectively, these two documents can be expected to be primary documents for use by the Center's training staff in development and redevelopment of its short-term training programs in Adjustment.

The last paper will be a comprehensive technical report. It will contain the detailed analyses of the survey data, the sources for its design, and the methods of analysis employed. The audience for it will be applied researchers in state agencies, universities, and research centers engaged in the study, evaluation, and improvement of the rehabilitation profession. It is expected to be of major value as a benchmark source when similar studies of Adjustment personnel are undertaken. It will be disseminated as a research monograph in limited numbers.

13. Utilization of Findings

The project is directed at developing products which are directly usable in the planning and delivery of Adjustment training to potential and present day rehabilitation personnel. Five articles, reports, and/or resource documents are expected from this project and represent one utilization strategy.

1. Audiences and Needs in Adjustment Training
2. The 1978 National Survey of Adjustment Personnel: A Technical Report
3. A bibliography of Resources of Use in the Training of Adjustment Personnel
4. Models for Competency-based Training of Adjustment Personnel
5. Training Needs Inventory for Training of Adjustment Personnel

The second utilization strategy directly incorporates the findings of the research competencies and needs into the Vocational Adjustment training units. The units are key ones in our present or future in-service training programs for facility personnel. The 15 units, in various stages of planning, development, redevelopment, or completion are the following:

Completed
- Development of Individual Adjustment Plans/Goal Planning
- Behavior Management
- Attitudes Toward Disabled/Disadvantaged
- Production/Industrial

Underway
- Behavioral Counseling/Group Processes
- Behavior Identification and Analysis Methods
- Overview of the Placement Process

To Be Developed
- Occupational Information
- Job/Task Analysis
- Professional Communications/Staffing/Report Writing
- Professional Growth and Development

Planned
- Tools of Adjustment
- Independent Living Assessment
- Trends and Issues in Adjustment Services

14. Policy, Program, and Practice Changes

The long-term effects of this project will be reflected in the practice and delivery of Adjustment services to individual clients. The short-term effects will be seen in the content and manner in which Adjustment personnel are trained.

Given a knowledge of those presently providing Adjustment services; a knowledge of the overall domains in which they must be competent to adequately serve their clients, respective to expected roles and function; a knowledge of the areas in which they are presently in need of training; and a knowledge of the differential training needs of practitioners around the country, a cohesive competency-based curriculum model can be outlined which accounts for both immediate and long-term concerns in the training of competent personnel. Around such a model, appropriate training materials and resources can be aligned and direct training applications can be devised to produce increasingly effective pre-service, in-service, and short-term training of Adjustment personnel.

Such improvements in training of Adjustment personnel can be expected to lead to greater differentiation and definition of services provided to individual clients. More highly skilled and adequately trained personnel are likely to be found in the practice of Adjustment, with commensurate benefits evidenced in the precision and effectiveness of the services designed for individual clients. In that the shape of the overall rehabilitation program is partially defined in terms of the effectiveness and structure of the services provided to clients, qualitative changes in the program might be anticipated. In particular, shorter, more efficient, prescriptive and precise rehabilitation for clients might be a long-term result of a research/training project such as this.

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APPENDIX A

Competencies of the Adjustment Specialist

Nineteen Professional Competencies of the Adjustment Specialist

COMPETENCY NAME*	DEFINITION OF COMPETENCY
1. Specific Marketable Skills and Work Habits (90, 16, 2.6)	Relates primarily to teaching/training the client in both a specific skill and the behavioral habits required to obtain and work at a job which that specific skill would demand.
2. Individualized Client Programming (88, 5, 4.2)	Relates to the activities of the specialist undertaken to collate relevant information about an individual client, to select appropriate methods for observing and monitoring a client, and to implement an appropriate adjustment program which includes both relevant persons and procedures.
3. Professional Communications/Paper Work (87, 8, 3.8)	Relates to activities of translating the facility's role and case findings on a client to significant persons involved in the client's rehabilitation.
4. Behavior Modification/Change (82, 14, 2.7)	Relates to an operational understanding of how to devise, implement, and monitor processes for changing or adjusting client behaviors.
5. Client Supervision (89, 19, 1.7)	Relates to use of appropriate techniques for supervising clients while providing services to them.
6. General Client Programming (80, 6, 3.9)	Relates to activities and technologies for developing and implementing a general adjustment service which optimizes referral and community resources (i.e., other services, other persons significant to the client) and adjustment technologies.
7. Rehabilitation as a Process (81, 4, 4.7)	Relates to the theoretical foundations of adjustment, vocational, and personality development, the impact of disability on rehabilitation, and the general state vocational rehabilitation program.
8. Vocational Information and Resources (77, 7, 3.8)	Relates to having a background of information and resources regarding jobs and occupations. This background information is both general and specific to the community in which the program is offered.
9. Vocational Evaluation Technology (76, 17, 2.1)	Relates to a fundamental knowledge of tools, techniques, and instruments that are available and can be used for the diagnosis and evaluation of clients.
10. Principles of Human Behavior/Behavior Change (75, 2, 6.2)	Relates to having adequate theoretical foundations in learning, personality, individual and group behavior, adjustment and disabilities, and the technologies for introducing new behaviors or changing old behaviors.
11. Personal/social Development (72, 10, 3.7)	Relates to activities of counseling/instruction (including group and individual) which are directed at providing skills or effective adjustment of skills in the social-personal areas needed for survival in the non-vocational, as well as the vocational world of the client.

12. Disability/Target Group Characteristics (70, 9, 3.7)	Relates to a general understanding of disabilities and minority/disadvantagement problems (sexual, social, personal, economic), differences and the implications these have for client vocational adjustment.
13. Vocational Evaluation as a Process (69, 3, 5.3)	Relates to the tasks involved in selecting, administering, and interpreting the findings from tests, work samples, and other technologies used to evaluate the client.
14. Employment Opportunities and Client Placement (66, 15, 2.6)	Relates to developing job markets for clients and the wide range of pre and post placement activities needed to insure adequate client adjustment on the job once placement is accomplished.
15. Staff Supervision (66, 13, 2.7)	Relates to maintenance of a professional work adjustment staff through use of appropriate supervision and in-service training.
16. Teaching/Training Technologies (62, 12, 2.9)	Relates to activities for development and implementation of learning experiences (materials, teaching techniques, work, and academic settings) which are congruent with the client abilities so that client academic/educational skills are brought up to a minimal level. These activities include the selection, modification and/or development of materials and identification of experiences which can be most effectively used to teach skills and habits.
17. General/Basic Employment Acquisition Skills (60, 11, 3.0)	Relates to activities (teaching/training) directed at developing a minimal level of competence in the client with respect to general (task specific and social) work behaviors, basic educational skills, and job seeking skills.
18. Job Analysis and Development/Modification (59, 18, 2.0)	Relates to development (or modification) of work tasks and work samples to be used in the evaluation of clients based upon analyses of the components of a particular job.
19. Production/Industrial Operations (52, 1, 8.7)	Relates to skills or competencies which are needed to maintain a continuous production line. More generally, it relates to skills needed for maintenance of a work context under which the adjustment program is delivered to the client

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*Numbers in parentheses under each name are, respectively, (1) the percent of respondents reporting the competency as essential, (2) the order in which the competency was extracted in principle components factor analysis, and (3) the percent of variance due to response accounted for by the factor.

APPENDIX B

Classification of Professional Competencies

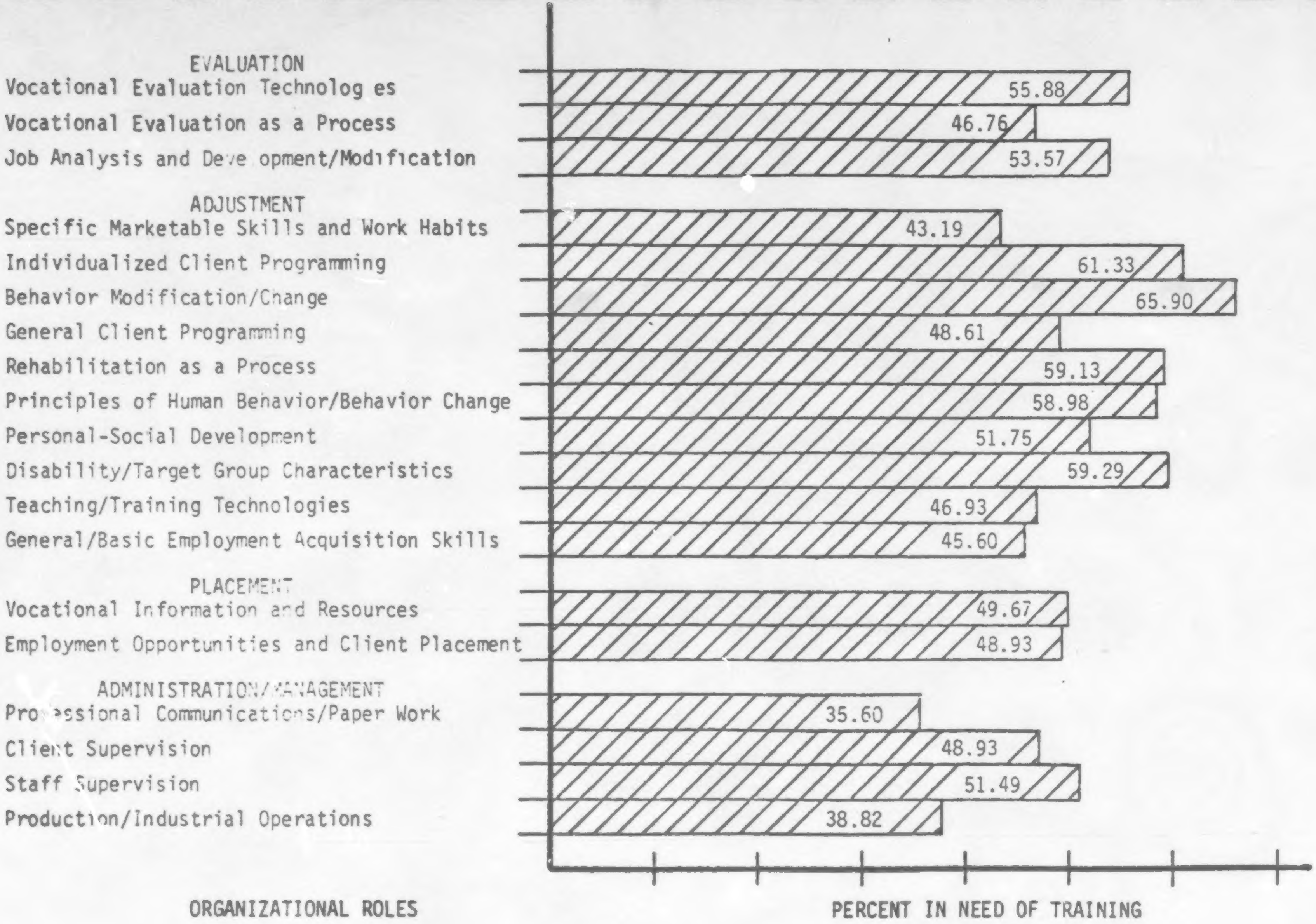
Classification of Professional Competencies by Organizational Roles and Operational Functions[1]

ORGANIZATIONAL ROLES	OPERATIONAL FUNCTIONS		
	IMPLEMENTATION AND DELIVERY	PLANNING AND DEVELOPMENT	BACKGROUND OR ANTECEDENT KNOWLEDGES
EVALUATION	Vocational Evaluation as a Process	Job Analysis and Development/ Modification	Vocational Evaluation Technologies
ADJUSTMENT	Specific Marketable Skills and Work Habits* Individualized Client Programming* Behavior Modification/ Change* General Client Programming* Personal-Social Development General/Basic Employment Acquisition Skills	Individualized Client Programming* General Client Programming* Teaching/Training Technologies	Rehabilitation as a Process Principles of Human Behavior/ Behavior Change Disability/Target Group Characteristics Teaching/Training Technologies
PLACEMENT	Employment Opportunities and Client Placement	Employment Opportunities and Client Placement	Vocational Information and Resources
ADMINISTRATION AND MANAGEMENT	Professional Communications/Paper Work* Client Supervision* Staff Supervision Production/Industrial Operations		

*Competencies ranked highest in importance by survey respondents

APPENDIX C

National Training Needs of Adjustment Personnel



National Training Needs of Adjustment Personnel on 19 Professional Competencies.

APPENDIX D

Vocational/Work Adjustment Training Needs Inventory

VOCATIONAL/WORK ADJUSTMENT TRAINING NEEDS INVENTORY

FORM A

TRAINING PRIORITIES

December 1980

Fredrick E. Menz, Ph.D.

Research and Training Center
Stout Vocational Rehabilitation Institute
University of Wisconsin - Stout
Menomonie, Wisconsin 54751

EXPERIMENTAL
Not for General Distribution

The Vocational/Work Adjustment Training Needs Inventory (TNI) was designed to help practitioners and administrators clarify and set priorities among the training needs of rehabilitation personnel engaged in Adjustment. The TNI is founded upon the nationwide research the Research and Training Center conducted to identify the professional competencies of the Adjustment Specialist. (See Ellien, Menz & Coffey, 1979; Menz, 1979, 1980, 1981a, 1981b; Menz & Ellien, 1979)

The TNI is available in two forms. Form A, Training Priorities, is designed for use by administrators of Vocational/Work Adjustment Programs who are planning for the training needs of their personnel. Form B, Role and Needs Analysis, is designed for use by the rehabilitation practitioner in selecting training programs which will best meet their training needs. The two forms can be used seperately or use jointly.

The Training Priorities form of the Training Needs Inventory (TNI/TP) was designed for administrators like yourself who must identify and set priorities among the training needs of their rehabilitation personnel and who will then identify training resources which will most efficiently meet those needs. You will find that you can use to TNI/TP identify and set priorities among you staff's present needs and also identify those long-term training needs which can be planned for for the future development of your agency's service programs.

As you go about completing the TNI/TP, you will consider what it is that you expect your staff to do in adjustment, the goals and various processes of your adjustment program, the more pervasive goals of your agency, the clients whom your agency serves, and your future plans for the agency in light of the professional competencies of the Adjustment Specialist. First, you will consider "how important" it is for your staff to have an adequate knowledge or skill in the areas tapped by the individual competency in order that they be effective with their clients. Next, you will consider "how well developed" are their skills, abilities and knowledges in these important areas. Finally, you identify their fundamental "priority training needs."

Once you have carefully completed the TNI/TP, you will have(1) clarified the skills, abilities and knowledges you expect your staff to possess if they are to provide quality services to your agency's clients; (2) identified those areas where your staff have adequately and inadequately developed skills, abilities and knowledges; and (3) set priorities among the training needs of your staff. Your TNI/TP analysis can also be compared against the Center's data bases on professional competencies and the Center's training files, information and resources. Such comparisons and our own analysis of your TNI/TP can then help us to work with you in (1) identifying existing training programs which may already be able to meet your staff's training needs; (2) planning modifications to our curricula to offer training to your staff; or (3) designing the custom training program which will efficiently meet your staff's unique training needs

INSTRUCTIONS

Your first step is to estimate the importance each of the professional competencies has for your staff to be effective with their clients. You are basically answering the question of "How important is it for my staff to have well developed knowledge or skills in these areas?" Read each statement and record one of the following numbers in the box provided in the first column.

1 = Is absolutely essential
2 = Is probably essential
3 = Is useful in some specific circumstances
4 = Is probably unessential
5 = Is absolutely unessential

After you have established the importance of each competency for your staff, you now must estimate how well developed your staff's skills or knowledges are with respect to those competencies which are important. Reread each statement you rated 1, 2, or 3 in importance and use the following scale to rate development.

1 = Is particularly lacking or nonexistent
2 = Is very inadequately developed
3 = Could use some upgrading or renewal
4 = Is well developed
5 = Is exceptionally well developed

You last step is to set your training priorities among the competencies which you consider most essential for your staff and for which they are most in need of development. Again reread those competencies rated as 1, 2, or 3 in the first two columns and set your priorities in the last column using the following scale.

1 = Immediate need
2 = Long-term developmental need

PROFESSIONAL COMPETENCIES	How important is it?	How well developed is it?	TRAINING PRIORITY
CLIENT SUPERVISION relates to use of appropriate techniques for supervising clients while providing services to them	☐	☐	☐
PRODUCTION/INDUSTRIAL OPERATIONS relates to skills or competencies which are needed to maintain a continuous production line. More generally, it relates to skills needed for maintenance of a work context under which the adjustment program is delivered to the client.	☐	☐	☐
STAFF SUPERVISION relates to maintenance of a professional work adjustment staff through use of appropriate supervision and in-service training	☐	☐	☐
PROFESSIONAL COMMUNICATIONS/PAPER WORK relates to activities of translating the facilities role and case findings on a client to significant persons involved in the clients rehabilitation	☐	☐	☐
VOCATIONAL EVALUATION AS A PROCESS relates to the tasks involved in selecting, administering, and interpreting the findings from tests, work samples, and other technologies used to evaluate the client	☐	☐	☐
JOB ANALYSIS AND DEVELOPMENT/MODIFICATION relates to development (or modification) of work tasks and work samples to be used in the evaluation of clients based upon analyses of the components of a particular job	☐	☐	☐
VOCATIONAL EVALUATION TECHNOLOGIES relates toa fundamental knowledge of tools, techniques and instruments that are available and can be used for diagnosis and evaluation of clients .	☐	☐	☐
INDIVIDUALIZED CLIENT PROGRAMMING relates to the activities of the specialist undertaken to collate relevant information about an individual client, to select appropriate methods for observing and monitorieng a client, and to implement an appropriate adjustment program which includes both relevant persons and procedures	☐	☐	☐
GENERAL CLIENT PROGRAMMING relates to activities and technologies for developing and implementing a general adjustment service which optimizes referral and community resources (i.e., other services, other persons significant to the client) and adjustment technologies	☐	☐	☐

PROFESSIONAL COMPETENCIES	How important is it?	How well developed is it?	TRAINING PRIORITY
BEHAVIOR MODIFICATION/CHANGE relates to an operational understanding of how to devise, implement, and monitor processes for changing or adjusting client behaviors	☐	☐	☐
SPECIFIC MARKETABLE SKILLS AND WORK HABITS relates primarily to teaching/training the client in both a specific skill and the behavioral habits required to obtain and work at a job which that specific skill would demand . . .	☐	☐	☐
GENERAL/BASIC EMPLOYMENT ACQUISITION SKILLS relates to activities (teaching/training) directed at developing a minimal level of competence in the client with respect to general (task specific and social) work behaviors, basic educational skills, and job seeking skills	☐	☐	☐
PERSONAL-SOCIAL DEVELOPMENT relates to activities of counseling/instruction (including group and individual) which are directed at providing skills or effective adjustment of skills in the social-personal areas needed for survival in the non-vocational, as well as the vocational world of the client	☐	☐	☐
TEACHING?TRAINING TECHNOLOGIES relates to activities for development and implementation of learning experiences (materials, teaching techniques, work and academic settings) which are congruent with the client abilities so that client academic/educational skills are brought up to a minimal level. These activities include the selection, modification and/or development of materials and identification of experiences which can be most effectively used to teach skills and habits	☐	☐	☐
PRINCIPLES OF HUMAN BEHAVIOR/BEHAVIOR CHANGE relates to having adequate theoretical foundations in learning, personality, individual and group behavior, adjustment and disabilities, and the technologies for introducing new behaviors or changing old behaviors	☐	☐	☐
DISABILITY/TARGET GROUP CHARACTERISTICS relates to a general understanding of disabilities and minority/disadvantagement problems (sexual, social, personal, economic), differences and the implications these have for client vocational adjustment	☐	☐	☐

PROFESSIONAL COMPETENCIES	How important is it?	How well developed is it?	TRAINING PRIORITY
REHABILITATION AS A PROCESS relates to the theoretical foundations of adjustment, vocational, and personality development, the impact of disability on rehabilitation, and the general state vocational rehabilitation program	☐	☐	☐
EMPLOYMENT OPPORTUNITIES AND CLIENT PLACEMENT relates to developing job markets for clients and the wide range of pre and post placement activities needed to insure adequate client adjustment on the job once placement is accomplished	☐	☐	☐
VOCATIONAL INFORMATION AND RESOURCES relates to having a background of information and resources regarding jobs and occupations. This background information is both general and specific to the community in which the program is offered	☐	☐	☐

STAFF'S TYPICAL EMPLOYMENT AND EDUCATIONAL CHARACTERISTICS

Select appropriate number(s) for each characteristic and record in the space provided ....

Total number of staff . . . . ☐

Their age. . . . . ☐
1. 18 thru 30
2. 31 thru 40
3. 41 thru 50
4. 51 thru 60
5. Over 60

Highest educational level completed. . ☐
1. Less than high school graduate
2. High school graduate/GED
3. Associate degree
4. College undergraduate
5. B.A./B.S. Rehabilitation
6. B.A./B.S. Non-rehabilitation
7. M.A./M.S. Rehabilitation
8. M.A./M.S. Non-rehabilitation
9. Doctorate in Rehabilitation
0. Doctorate in,Non-rehabilitation
. Other

ears of employment . . . . ☐
. None
. Less than 1 year
. More than 1 year, but less than 2
. More than 2 years, but less than 3
. More than 3 years, but less than 4
. Over 4 years

Is the facility CARF accredited . . . . . ☐
. Yes 2. No

erage number of clients served per day ☐
0-31
2. 31-70
3. 71-100
4. 101 +

Months of work experience in directly providing work-adjustment services to clients. . . . . ☐
1. Less than 3 months
2. 3 to 6 months
3. 7 to 11 months
5. 12 to 23 months
6. 24 to 35 months
7. 36 to 59 months
8. 60 or more months

Their primary source of training in work adjustment. ☐
1. Local inservice programs/consultations/OJT
2. Short-term training program (RCEP, RTC, etc)
3. Formal undergraduate program in rehabilitation
4. As part of undergraduate studies
5. Formal graduate/professional program
6. As part of graduate/professional studies
7. Own studies and work experiences
8. None

Type work setting . . . . ☐
1. Not presently employed
2. State operated facility
3. Privately operated facility
4. University based facility/service
5. Hospital based facility/service
6. Secondary/Vocational-technical school
7. College or university
8. State or federal agency
9. Private business or industry

Size of city or town where you are presently employed. . . . . ☐
1. Under 2,500
2. 2,500 thru 9,999
3. 10,000 thru 24,999
4. 25,000 thru 49,000
5. 50,000 thru 99,000
6. 100,000 or more

VOCATIONAL/WORK ADJUSTMENT
TRAINING NEEDS INVENTORY

FORM B

ROLE AND NEEDS ANALYSIS

December 1980

Fredrick E. Menz, Ph.D.

Research and Training Center
Stout Vocational Rehabilitation Institute
University of Wisconsin - Stout
Menomonie, Wisconsin 54751

EXPERIMENTAL
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The TNI is available in two forms. Form A, Training Priorities, is designed for use by administrators of Vocational/Work Adjustment Programs who are planning for the training needs of their personnel. Form B, Role and Needs Analysis, is designed for use by the rehabilitation practitioner in selecting training programs which will best meet their training needs. The two forms can be used seperately or use jointly.

The Role and Needs Analysis form (TNI/RNA) was designed to help you the practitioner identify your particular training needs in Vocational/Work Adjustment so that you will be able to select the most appropriate training program and determine whether those needs are being met in the training. You will find that you can use the TNI/RNA to identify your present training needs or to plan the sequence of training you will need in order to attain your own professional goals. A by-product of your completion of the TNI/RNA will be that you will have also provided yourself a visual characterization of your present job (or long term professional job goal) in terms of the specific skills, abilities, and knowledges which are vital for an adjustment professional to be fully effective.

As you go about completing the TNI/RNA, you will consider what it is that you do in your present job in adjustment (or the job you plan to attain), the goals and programs of you agency, the clients you work with, and your career goals in light of 65 competency statements. First, you will consider each competency statement in terms of "how important" it is for you to have an adequate knowledge or skill if you are to be effective with you clients. Next, you consider "how well developed" are your skills, abilities or knowledges. Finally, you identify the specific skills, abilities and knowledges which are your "priority training needs."

Your TNI/RNA can also be compared against the Center's data bases on the professional competencies and needs of other practicing adjustment professionals. From such comparisons, we can provide you with more detailed analyses of (1)the professional role you perceive yourself serving or plan to serve; (2) the training needs you have relative to your present or long-term professional goals; and (3) the training options available through the Center which will best meet your unique training needs.

INSTRUCTIONS

Your first step is to estimate the importance each of the 65 skills, abilities or knowedges has in your professional role. Using the following key, you are completing a statement in the form "My ability 'to administer tests' is (how essential?) to being effective with my clients." Read each statement and record the appropriate number in the box provided.

1 = Is absolutely essential
2 = Is probably essential
3 = Is useful in some specific circustances
4 = Is probably unessential
5 = Is absolutely unessential

After you have rated each statement in terms of it's importance, estimate how adequately developed your skill, ability or knowledge is with respect to each of those 65 statements which you consider useful or essential (3, 2, or 1). Use the following codes to represent your level of development and record in the appropriate box in the second column.

1 = Is particularly lacking or nonexistent
2 = Is very inadequately developed
3 = Is in need of upgrading or renewal
4 = Is well developed
5 = Is exceptionally well developed

Now that you have identified those essential skills, abilities and knowledges which are inadequately developed (3, 2, or 1), which of these do you need immediate training to be more effective in your current role or would help you to be more effective in the long-term. Use the following scale to indicate your training priorities. Rate only those which have a 3, 2, or 1 in the first two columns.

1 = Immediate need
2 = Long-term developmental need

THEORETICAL BACKGROUND

"My knowledge of or background in...."

	How important is it?	How well developed is it?	TRAINING PRIORITY
Work Adjustment theories	☐	☐	☐
The state vocational rehabilitation process	☐	☐	☐
Personality growth and development theories and psychological principles	☐	☐	☐
Vocational development	☐	☐	☐
Use of total environment to change behaviors (Milieu Therapy)	☐	☐	☐
Disabilities and implications for vocational rehabilitation	☐	☐	☐
Probable client problems in economic and social areas	☐	☐	☐
Human sexuality including sexuality of disabled people	☐	☐	☐
Issues and problems of minority cultures	☐	☐	☐
Individual counseling theories	☐	☐	☐
Group processes	☐	☐	☐
Learning theories	☐	☐	☐
Learning problems and treatment/teaching	☐	☐	☐
Behavior change techniques	☐	☐	☐
Theories of behavior	☐	☐	☐
Evaluation instruments and tools	☐	☐	☐
Diagnostic and evaluation techniques	☐	☐	☐
Behavior change planning techniques and practices	☐	☐	☐
Supervision techniques and practices	☐	☐	☐
Case management techniques and practices	☐	☐	☐
Community resouces and referral methods	☐	☐	☐
Sources of occupational information	☐	☐	☐
Jobs and occupations	☐	☐	☐
Production management techniques	☐	☐	☐

SKILLS AND ABILITIES

"My skill or ability to...."

	How important is it?	How well developed is it?	TRAINING PRIORITY
Administer tests	☐	☐	☐
Interview and screen clients	☐	☐	☐
Develop work samples	☐	☐	☐
Perform client evaluations	☐	☐	☐
Interpret vocational evaluation findings	☐	☐	☐
Coordinate and manage client programs	☐	☐	☐
Select and coordinate the use of appropriate community resources and rehabilitation services	☐	☐	☐

SKILLS AND ABILITIES "My skill or ability to...."	How important is it?	How well developed is it?	TRAINING PRIORITY
Supervise clients	☐	☐	☐
Supervise work adjustment personnel	☐	☐	☐
Set up and implement staff in-service training.	☐	☐	☐
Procure sub-contract work from industries . . .	☐	☐	☐
Supervise production and schedule work.	☐	☐	☐
Perform quality control	☐	☐	☐
Perform inventory control	☐	☐	☐
Complete production records and reports	☐	☐	☐
Perform time studies.	☐	☐	☐
Assess local labor markets.	☐	☐	☐
Provide job development, placement and follow-up services	☐	☐	☐
Develop and implement work adjustment plans involving clients, staff and family when appropriate	☐	☐	☐
Describe client adjustment problems using observable and measurable terms	☐	☐	☐
Develop and select appropriate forms, procedures criteria, and standards for measuring client growth and development or change in behavior. .	☐	☐	☐
Systematically observe, describe, analyze and interpret work behaviors.	☐	☐	☐
Implement and monitor behavior modification programs.	☐	☐	☐
Translate psychological and psychiatric information into work related treatment plans for clients	☐	☐	☐
Develop simulated work tasks.	☐	☐	☐
Provide individual, personal, social adjustment and vocational counseling	☐	☐	☐
Provide group counseling.	☐	☐	☐
Instruct in and help clients develop vocational, personal, social and survival skills. .	☐	☐	☐
Select, adapt and utilize teaching techniques and resource materials (for example, lesson plans, teaching aides) consistent with client's ways of learning, to help each client deal with job requirements and their adjustment problems. . .	☐	☐	☐
Instruct in and help clients develop acceptable work habits	☐	☐	☐
Teach work skills and work procedures to clients	☐	☐	☐
Utilize work situations to develop academic skills.	☐	☐	☐
Develop and implement job readiness training. .	☐	☐	☐
Train in job seeking skills	☐	☐	☐

SKILLS AND ABILITIES

"My skill or ability to...."	How important is it?	How well developed is it?	TRAINING PRIORITY
Train in basic education skills	☐	☐	☐
Provide on-the-job training	☐	☐	☐
Complete job analyses and make job modifications	☐	☐	☐
Participate in case conference.	☐	☐	☐
Communicate facility mission and services . . .	☐	☐	☐
Write client progress and summary reports . . .	☐	☐	☐
Write case related correspondence	☐	☐	☐

PERSONAL, EMPLOYMENT AND EDUCATIONAL CHARACTERISTICS

Select appropriate number(s) for each item and record in the space provided ....

Your age. . . . . ☐
1. 18 thru 30
2. 31 thru 40
3. 41 thru 50
4. 51 thru 60
5. Over 60

Highest educational level completed. . ☐
1. Less than high school graduate
2. High school graduate/GED
3. Associate degree
4. College undergraduate
5. B.A./B.S. Rehabilitation
6. B.A./B.S. Non-rehabilitation
7. M.A./M.S. Rehabilitation
8. M.A./M.S. Non-rehabilitation
9. Doctorate in Rehabilitation
10. Doctorate in Non-rehabilitation
11. Other

Years of employment outside rehab. . . . ☐
1. None
2. Less than 1 year
3. More than 1 year, but less than 2
4. More than 2 years, but less than 3
5. More than 3 years, but less than 4
6. Over 4 years

Years of employment in rehab . . . . . . ☐
1. None
2. Less than 1 year
3. More than 1 year, but less than 2
4. More than 2 years, but less than 3
5. More than 3 years, but less than 4
6. Over 4 years

Is the facility in which you are employed CARF accredited . . . . ☐
1. Not employed in a facility
2. Yes
3. No

Average number of clients served per day ☐
1. Not employed in a facility
2. 0-30
3. 31-70
4. 71-100
5. 101 +

Months of work experience in directly providing work adjustment services to clients. . . . . ☐
1. Have not worked in client service
2. Less than 3 months
3. 3 to 6 months
4. 7 to 11 months
5. 12 to 23 months
6. 24 to 35 months
7. 36 to 59 months
8. 60 or more months

Your primary source of training in work adjustment. ☐
1. Local inservice programs/consultations/OJT
2. Short-term training program (RCEP, RTC, universites, etc.)
3. Formal undergraduate program in rehabilitation
4. As part of undergraduate studies
5. Formal graduate/professional program in rehabilitation
6. As part of graduate/professional studies
7. Own studies and work experiences
8. None

Type work setting in which you are presently employed. . . . . ☐
1. Not presently employed
2. State operated facility
3. Privately operated facility
4. University based facility/service
5. Hospital based facility/service
6. Secondary/Vocational-technical school
7. College or university
8. State or federal agency
9. Private business or industry

Titles which best represent your primary occupational role in your present employment. . . . . ☐
1. Adjustment specialist
2. Adjustment aide
3. Adjustment supervisor
4. Adjustment counselor
5. Skill trainer
6. Floor supervisor
7. Administrator
8. Production Superv
9. Teacher
10. Researcher
11. Student/Intern
12. Other ____________

Size of city or town where you are presently employed. ☐
1. Under 2,500
2. 2,500 thru 9,999
3. 10,000 thru 24,999
4. 25,000 thru 49,000
5. 50,000 thru 99,000
6. 100,000 or more

RESEARCH PROJECT REPORT Project No. R-45

1. Title An Analysis of Self-Monitoring on Work Skills of Vocational Adjustment Clients

2. Project Status (Check):
Proposed ___ New ___ Continuing ___ Completed x Discontinued ___
Transferred ___ Other ___

3. Beginning: 1/80 mo/yr Expected Completion: 1/81 mo/yr Completed: ______ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Terry Van Dermolen	Rehabilitation Counseling	50	
Charles Coker, Ph.D.	Psychology	5	
Clerical		3	

5. Financial Data:
Estimated Cost From Beginning to End of Project: 21,510

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	10,343		1,410				11,753	
Supplies and Other Expenses	2,448						2,448	
Travel	930						930	
Equipment								
Indirect Costs Allowed by DE	2,058		4,321				6,379	
Total	15,779		5,731				21,510	
Percent	74		26				100	

*For report year and continuation year

6. Statement of the Problem

Purpose

A major goal of vocational adjustment services is to strengthen desirable work and work related behaviors, and eliminate behaviors considered determental to the vocational development and successful placement of vocational rehabilitation clients. Among the various behavior change stragies employed to accomplish this task, the techniques of behavior modification (behavior observation, behavior analysis, behavior management) have received increased attention. Both the success of these procedures and their clinical simplicity have contributed to their popularity in Adjustment Services.

In a majority of behavior modification programs (and other Adjustment Services) externally imposed environmental contingencies are established by an adjustment specialist to modify client behavior. There are, however, potential disadvantages to externally imposed contingencies in adjustment settings. The primary disadvantage is that the modification of behavior may remain situationally specific to the staff, peer, and facility characteristics; resulting in the client learning only to emit desired behavior at specific times, specific places, and/or with specific individuals. The ideal situation is the internalization of "valid" contingencies; resulting in the client emitting appropriate behavior in new times, places, and with a variety of individuals. One way to attain the transferrability of these skills and avoid potential difficulties is to teach clients behavior change techniques which would assist them to modify their own behavior. The modification of one's own behavior can be accomplished through what is termed self-control procedures. Since a goal of adjustment services is to increase the probability that behavior change is long lasting, the feasibility of training clients in self-control procedures seems a worthwhile pursuit. The purpose of this research will be to examine self-control procedures and assess the efficiency of one such procedure: Self-monitoring on work and work related skills of vocational adjustment clients.

Introduction

Adjustment Services are provided to vocational rehabilitation clients so they might become more adequately functioning members of the community. Clients are referred to these services for a variety of reasons, from improving activities of daily living to remedial education. The actual function of any Adjustment Service may be viewed as an attempt to modify client behavior. Thus, the success of vocational adjustment specialists will depend upon an ability to exercise behavior change strategies.

An analysis of most behavior change techniques reveals that the relationship between client and change agent can be viewed as one where the client is a passive recipient of contingencies imposed by a behavior manager. Regardless of the value to the client of the responses controlled by those contingencies, one could question the relative effectiveness of an approach which places the client in a submissive role as opposed to an alternative in which the client is an active participant in the control process. There is often an assumption made that active participation by clients will increase the likelihood of a successful rehabilitation outcome. Consequently, the issue of self-control echniques for vocational rehabilitation clients is one that demands attention.

Many control techniques have been developed, including physical restraint, stimulus control approaches, deprivation and satiation, drugs, operant conditioning, and learning behavior incompatable with the target behavior (Skinner, 1953). Self-control procedures have been used primarily to aid in the control of appetitive behaviors such as overeating, drinking, and smoking Recently, however, these techniques have been used for a variety of behaviors.

Self-monitoring is one self-control strategy which has seen increased use to assess behavior and produce client change in clinical settings. Self-monitoring involves merely recording one's own behavior over time. Although it has presented some problems to practitioners as an assessment device because of its frequent unreliability, self-monitoring will often cause a change in behavior despite the accuracy with which it is employed.

If the field of vocational adjustment is going to continue to improve its services to the client, it should examine new techniques of behavior change under investigation in other disciplines. This is especially true if one of the concerns of vocational rehabilitation remains getting the client involved in the rehabilitation process. Self-monitoring may be one of self-control procedures which warrants research for both of these considerations.

Review of Literature

The use of self-monitoring to influence behavior is not a new strategy. Bettger (1949) reports that Benjamin Franklin's secret for success was that he defined 13 categories of desirable behavior, and monitored one per week for 13 successive weeks. He renewed his plan four times each year. Since Franklin's time, others have attempted to use self-monitoring to improve their mental or behavioral health. As Kazdin (1974) states, "As a therapeutic strategy, recording one's own behavior sometimes is reactive, that is, alters the observed behavior." In other words, simply recording or becoming aware of behavior is often enough to change its frequency.

Self-observation procedures have been used in a variety of situations to stimulate performance change. Complex and stubborn response chains, such as smoking (Hanna, 1978; McFall, 1970), have been shown to change in positive directions as a result of self-monitoring. Johnson and White (1971) used self-observation to improve the studying behavior of college undergraduates; Bolstad and Johnson (1972) likewise reduced the disruptive classroom behavior of second graders. The same technique has been used to modify social skills with college students (Lipinski & Nelson, 1974), retarded adolescents (Zegiob, Klukas, & Junginger, 1978), and retarded adults (Nelson, Lipinski, & Black, 1976).

However, self-recording alone has not consistently produced desirable change (Kazdin, 1974; Mahoney, Moura, & Wade, 1973). Many variables influence its effectiveness, including (a) the valence of the behavior, (b) performance standards, (c) feedback, (d) consecution for the behavior, (e) nature of the target behavior, and (f) the technique used for self-monitoring (Ciminero, Nelson, & Lipinski, 1977). In some situations, which have not yet been clearly defined by research, these factors must be present; in others, self-recording is sufficient (Kazdin, 1974). Even though self-monitoring of behavior has produced a conflicting record of effectiveness, it appears, under certain conditions, this procedure can be an effective behavior change technique.

Little evidence exists on the comparative effects of self-monitoring and external-observation systems, however. Bandura and Perloff (1967) placed elementary school children in two groups, one of which selected their own performance standards and reinforcement schedules. The second group was yoked in that their standards and schedules of reinforcement were controlled by the first group. The authors had the children operate a mechanical apparatus to examine the behavior maintenance potential of self-determined standards versus imposed standards. They found that the two groups performed equally well, and surprisingly, those that had control of their behavioral criteria imposed schedules requiring high response effort for low rewards. This study differs from those that imply strictly self-monitoring, however, in that the clients were also able to determine reinforcement density. Additionally, long-term maintenance, as would be needed in a vocational adjustment program, was not measured.

Kazdin (1974) found that while teaching sentence construction to undergraduates, self-monitoring was more effective than "other"-monitoring when the behavior was of a positive valence (i.e., the behavior was given a high social value). However, self-monitored performance was the same when the behavior was given either a neutral or negative valence. Kazdin replicated the finding that being monitored by someone else was equally reactive given equal valence (experiment 1) or performance standards (experiment 2).

In contrast, Nelson, Lipinski, and Black (1976) found that self-recording was more effective than a token economy. They trained retarded adults to engage in social behaviors, including conversation, participation in lounge activities and tidiness. Clients in their study were more receptive to change under self-recording conditions in all three behaviors than they were to three variations of a token economy system. The fact that these results contrast findings from past research (Kazdin, 1974) may reflect the different populations (college students vs. retarded adults), the type of response taught (academic vs. social), or another variable not yet fully researched in the literature.

Besides the question of the relative efficacy of self-monitoring procedures on client behavior, another issue arises from consideration of the larger topic of self-control procedures: Do self-control procedures result in more general types of changes that would effect other functional abilities? The effects of control over events in the environment on the general well-being of a species has received considerable attention and controversy since Skinner's work became prominent. The question has been precisely what is being considered here. Regardless of the method of self-control, does control, in and of itself, enhance the ability to function in the environment?

Classic studies on this topic began with research in the laboratory, as did Skinner's work, with such studies as Mowrer and Viek (1948) in which rats exhibited less fear over an aversive event which they could control; the sudden death of rats placed in a "hopeless" situation (Richter, 1959); the "learned helplessness" research of Seligman, Maier, and Solomon (1969); the studies with ulcer generation in the "executive" monkey (Brady, Porter, Conrad, and Mason, 1958; Weiss, 1971) and was brought to general attention by Lefcourt's extrapolation to man in his article on the function of illusions of control and freedom (1973).

During this time, Rotter (1966) formulated his distinction between individuals who have an "internal" and "external" locus of control. Those with an internal locus of control feel that reinforcers are contingent upon their own behavior, and not controlled by outside forces. Individuals with an external locus of control, on the other hand, perceive that luck, chance, fate, or others determine their destiny. If clients who are typically passive recipients of adjustment services are taught to take a more active role in their rehabilitation, their locus of control may be influenced. Rehabilitation began examining the locus of control when Tseng (1970) suggested that vocational rehabilitation clients who are internals will generally show a higher rating on job proficiency and personal quality. Also, internals show significantly higher need for achievement. More recently, Athelstan and Crewe (1978) have suggested that individuals with an internal locus of control may be better equipped to plan their future. From their work with clients suffering from spinal cord injuries, they surmise that clients who are internals may be more susceptible to efforts to guide their rehabilitation. Similarly, the authors conclude that externals could justify retiring from competition and allow others to care for them.

These studies suggest very strongly that the ability to perceive the external world as one which is predictable and controllable is an important, if not essential, component for the total well-being and effectiveness of the individual. On a casual observation basis, rehabilitation services, more often than not, appear to deliver services in a way that reduces self-control and self-management opportunities. Yet, an increase in these kinds of opportunities is precisely what would enhance the rehabilitation process. Thus, if procedures could be designed to increase the amount of control clients perceive they exert over their own behavior the more likely that they would be motivated and effective in the rehabilitation process.

Present Research

The research cited above suggests that control of behavior can be viewed from two perspectives. One dimension of control is that of externally imposed contingencies which result in the shaping and emitting of desired behaviors. The second is that of internally imposed contingencies which result in similar control over behavior. Note that, theoretically, the contingencies and the resulting responses are the same from either view. What is different is the question of how efficient, generalizable, and permanent are the changes in behavior. Technically, externally imposed contingencies result in "permanent" changes through exposure in a wide variety of situations; i.e., these contingencies have a generalization quotient resulting from continued reinforcement or punishment in less and less similar environments to the original one. The externally imposed generalization phenomenon has proven to occur in the laboratory setting, but has serious practical limitations when working with complex behavioral chains with individuals in a constantly changing environment. In individual behavior modification programs, the changes which are desired are those which lead the individual to be able to understand the relationship between his behavior and the resulting consequences as well as ways for changing the consequences by changing behavior. When individuals view required changes in behavior as desirable only from the viewpoint of others, the more likely it is that the individual would emit that behavior only during the presence of those others. Thus, the value of internally imposed contingencies is that behavior would be emitted across all appropriate situations because the individual reinforces himself for emission of the behavior rather than be subject to the external control of others.

Given that self-control techniques are, in the long run, more economical and meaningful to the individual than external control techniques, it would be valuable to understand how self-control is acquired. It would seem that the starting point for such learning is "awareness" of relationships or contingencies.(The fact that the issue of awareness in the learning literature was, at one time, a controversial and long running debate will not be addressed here.) Somehow, the individual must be aware of the consequences of his behavior if changes are to occur. Operationally, awareness may be defined as observing behavior, quantifying it to one external or another, and measuring the consequences of the behavior. Self-recording or self-monitoring would serve the purpose of providing valuable information for becoming aware of the behavior and its consequences; and, could ultimately lead to self-control of behavior.

One example might clarify the technique which is being considered. Let's view the object of behavior modification as an increase in production speed with no loss in production quality. For this example it is assumed that the individual has adequate skills for meeting the production criterion, but has failed to do so. A behavioral analysis of the situation begins by assessing the ratio of on-task behaviors to off-task behaviors. (On-task means behaviors leading to progress on the task; off-task behaviors are those which do not.) The analysis reveals that the individual spends 50% of his time off-task. Of that 50% off-task, he talks to others; supervisors, co-workers, and visitors about 45%. It becomes obvious then, that the goal of a behavior modification program would be the reduction of off-task talking behavior to increase on-task behaviors. The resultant changes in on-task time would be expected to increase production speed.

Externally imposed contingencies could be set-up to reinforce on-task behaviors and punish off-task talking. Or a self-monitoring technique could be set up with the ultimate goal of having the client increase his production speed through the following suggested procedure.

Three charts would be made up consisting of on-task %, production %, and pay. The behavior change manager or adjustment counselor begins observing behavior, measuring production output, and translating output to pay. The client initially records his on-task behavior %, production speed, and production pay with the assistance of the counselor. The counselor explains the relationship between behavior, production, and pay. They decide together that the off-task talking is a problem. The counselor could begin by asking the client not to talk for one hour. During that time the counselor observes and measures the variables. The client plots all three on a graph. Then self-monitoring of the client's talking behavior would begin. A transitional phase would be necessary, where the counselor and the client both observe the talking behavior. Once the client can adequately self-monitor the behavior, on-task behavior, production speed, and production pay are plotted by the client with no assistance. The counselor monitors the charts to insure that progress is consistently being made. In the process, the counselor also teaches the client new cues for monitoring behavior which initially may have involved recording frequency and duration on a form to the point where the client records whether he was off-task talking during that day and later, the week. Other problems that interfere with the clinet's rehabilitation goal could be handled the same way.

The problem with this scenario is not so much the technical aspect of behavior modification as it is the practical application. For example:

1. Can clients self-monitor?
2. What are feasible procedures for acquisition of self-monitoring techniques--inlcuding the facing out of written forms?
3. What form of verbal counseling is facilitative to learning the contingencies (awareness)?
4. What forms of verbal counseling are, in conjunction with contingency management procedures, facilitative for changing behavior?
5. Are changes long-lasting?
6. Is the self-monitoring procedure economical in comparison to counselor monitoring?

These concerns and the relationship of self-monitoring to the general issue of self-control and the larger questions of the effect of self-control on the motivation and efficiency of the client in rehabilitation adjustment programs are the purposes of this research.

7. Objectives

A. To determine the feasibility of teaching self-monitoring techniques to vocational adjustment clinets.

B. To compare the effects of self-monitoring procedures with staff-monitoring on the maintenance of clients' work skills during adjustment services.

C. To examine the transferability of self-monitoring procedures to different tasks and different settings.

D. To explore the relationship between self-control procedures and locus of control.

E. To develop training modeule(s) as dictated by research findings.

8. Methodology

This particular project was proposed for additional research staff funded through expansion of the Center's base grant in 1979, which was not recieved until January, 1980, when a pilot study was initiated at Michigan State University. Rather than a specific methodology, the advisory sources suggested that the methodology detail the major variables involved in conducting this type of research. The actual methodology used in the exploratory pilot study is detailed in section (II).

Parameters. The methodology will need to address the following areas:

1. Selection of self-control technique(s). The preliminary review of literature has indicated that self-monitoring of behavior is the most feasible and logical technique to begin investigating. Further review of techniques now being used for self-control would be investigated prior to formalizing the methodology.
2. Subjects. The demographic characteristics of clients will be controlled either by a random sample of clients in adjustment programs or selection of a homogeneous group. Sample size will, more than likely, be fairly small (n=30 per group) depending on the degree of control over variables. At least two groups of clients would be involved. Informed consent procedures would be followed and clients may receive renumeration for production work performed in the study.
3. Design. A multiple-baseline procedure would be used in which more than one variable (such as production rate, on-task time, and production quarterly) would be monitored in a baseline condition (prior to introduction of a self-control technique) and during the intervention phase.
4. Procedures. Facility sites would be selected in which behavior modification techniques are being utilized or where ample evidence of the desire and capability to use behavior modification techniques is present. The exact procedures to be used would be worked through in relationship to the clients adjustment program goals with each facility. Clients at each facility would be selected on the basis of a behavioral analysis of their personal, social, and work habits. Target behaviors would be identified for each client. A program of training the staff and clients on staff-monitoring, self-monitoring, and data collection procedures would be developed. Of the sixty clients, thirty would be randomly assigned to the experimental self-monitoring group or matched pairs of clients would be assigned to "self-monitoring" and "staff monitoring" groups.

   The difference between self-monitoring and staff monitoring groups is who records and tracks behavior. In self-monitoring, the client records the behavior and discusses the relationship between the behavior and its consequences. In staff monitoring, the counselor records the behavior and has the same discussion. Though the point may seem minor, self-monitoring alone has shown to change behavior. The design of such a program will also enable examination of more advanced self-control techniques (such as self-talk and imagery which assists an individual to remember what is supposed to be done and "see" the result of the action). Both groups would begin on staff monitoring to establish baselines for the behaviors. The self-monitoring groups would be trained on recording their own behavior and have the program explained to them. The staff monitoring groups would have only the program explained. During the experiment, the self-monitoring groups would also be staff monitored by either a staff member not working with the client or researcher. This procedure would be necessary so that the reliability of client self-monitoring can be determined for clients in general and for different recording techniques. Rotter's (1966) scale of internal vs. external locus of control would be administered on a pre- and post-basis to determine changes in perception of control in both techniques and, on a pre-basis, to predict which clients should do well under self-monitoring and staff-monitoring (theoretically, externals may perform better in staff-monitoring situations, while internal may perform better in self-monitoring).

5. Analysis. The subject, design, and procedure shall be revised so that the following classes of variables would be measured or controlled:

   A. Independent variable: Self-control technique(s), client demographic characteristics, and Rotter pre-test data.

   B. Dependent variable:
      a. number of clients and time required for each client to successfully acquire the self-control technique
      b. time and efficiency with which clients used self-control procedure in new tasks and new settings
      c. on-task time, production rate, and production quality of tasks (initial task, new task, and new task in different settings) by staff and by clients if self-monitoring is used
      d. Rotter's internal/external locus of control on a post-experimental basis

   C. Controlled Variables:
      a. subject differences, demographic characteristics and skill level on the self-control technique and performance level on tasks prior to intervention
      b. task differences
      c. staff differences
      d. peer pressure difference (e.g., assembly line operation vs isolated performance of task)
      e. facility characteristics
      f. other variables as further investigation reveals (e.g., effect of Center staff and training of facility staff).

The statistical analysis would primarily determine; (a) to what extent clients are capable of learning the self-control procedure and with what reliability, (b) to what extent does the self-control technique affect task permanence variables and the transferability (i.e., generalization) of the changes, (c) and to what extent the self-control procedure affects a more general concept of locus of control and/or other less empirical, but more general characteristics of individual (i.e., consistency, supervisor ratings, etc.).

A pilot study would be utilized prior to the conduct of the formal study to work out specific details and problems.

6. Training Modules. Two types of training modules are envisaged as resulting from this study: (a) modules for training adjustment specialists to teach the self-control technique and (b) modules for teaching clients self-control techniques. In each case, the training modules would have to be validated for the target groups involved.

Timelines

January, 1980	Begin comprehensive review of related research practices.
May, 1980	Begin Pilot study.
Novebmer, 1980	Complete study.
December, 1980	Complete report.
January, 1981	Review report for training implications and further research in this area.

9. Relevance of Problem

This project impacts on the Adjustment line of programmatic research. The use of behavior modification techniques in Vocational Adjustment Services has provided practitioners in the field with direct and effective procedures for dealing with behavior problems. With recent emphasis to have clients involved in the planning of their own rehabilitation, there is a need to examine techniques which promote self-control. Self-monitoring is one commonly used self-control technique which could have direct application and relevance to rehabilitation facilities which deal with Adjustment Services. By training clients to become aware of and record their own performance, they can become directly involved in their programs. Self-monitoring has been shown to have reactive effects on behavior in several settings with several populations. If it should prove to be as effective as the staff control procedures which are typically used in behavior management projects, self-monitoring, and possibly other self-control techniques shoudl prove useful to the field of Vocational Adjustment.

10. Client Characteristics

This project will involve clients of various disabilities, depending on the research goals. Protection of human subjects will be conducted in accordance with guidelines of the University of Wisconsin-Stout, as approved by DHEW.

11. Current Year's Activities

The project was originally scheduled to begin in July of 1979, contingent upon funding for staff. Insufficient funding level was received for the 1979-1980 grant year to begin this project. Part of the project was undertaken as a doctoral dissertation at Michigan State University with RTC funds.

The parameters specified in the methodology section are ones which guided the pilot study in this area. The main purpose of the research was to introduce methods of self-control in a work adjustment setting. Because the research required making programmatic changes that could possibly affect the rehabilitation process, the research employed combinations of the intensive research design (case study) and a simple subject design repeated on three clients. This procedure was deemed most feasible for practical program reasons since the research could be done without interferring with the general adjustment program and for methodological concerns relating to the university, the least resources to test the feasibility of the research design.

Subjects. Three subjects from a work adjustment program were used in the study. Subject A was a 28 year old female divorcee with back problems. Subject B was a 47 year old male with a primary disability of shizophrenia (residual type) and a secondary disability of mental retardation. Subject C was a 31 year old female who was moderately mentally retarded.

Design. A single subject strategy utilizing an ABACA design was utilited. The ABACA design in this study was:

Base I	Self-Monitor	Base II	Self-monitor +Self-reinforcement	Base III
(A)	(B)	(A)	(C)	(A)

Where "A" represents a baseline period in which only staff observation data was collected; "B" represents a self-monitoring and self-reinforcement.

Procedures. The staff at the rehabilitation facility involved in this study were given an overview of the study in terms of the research design and hypotheses to be tested. They were introduced to the concept of self-control, the principles of self-monitoring and self-reinforcement, and how this study planned to investigate the effectiveness of these techniques within the work adjustment setting. They were also trained in behavior observation based on the Point Sampling Technique described by Coker and Schneck (1979). (See Project R-41)

A pre-treatment baseline (I) period began after the client had adjusted to the new environment in work adjustment training. This consisted of staff-monitoring of the target behaviors on each subject and recording this information on a regular basis. The target behaviors were discussed with the subject, the adjustment program staff, and the case manager. Production rates were targeted for each client involved, and additional behaviors were selected specific to each subject. After a five-day Base I period (A), the subject was informed of the specifics of the behaviors being observed. Self-monitoring (B) was introduced by asking subjects to begin keeping a record of that behavior themselves. In most cases, this record-keeping required only counting and recording. After a five-day self-monitoring period, the subjects were asked to stop keeping records, although staff observations continued throughout the study. Another five-day baseline period

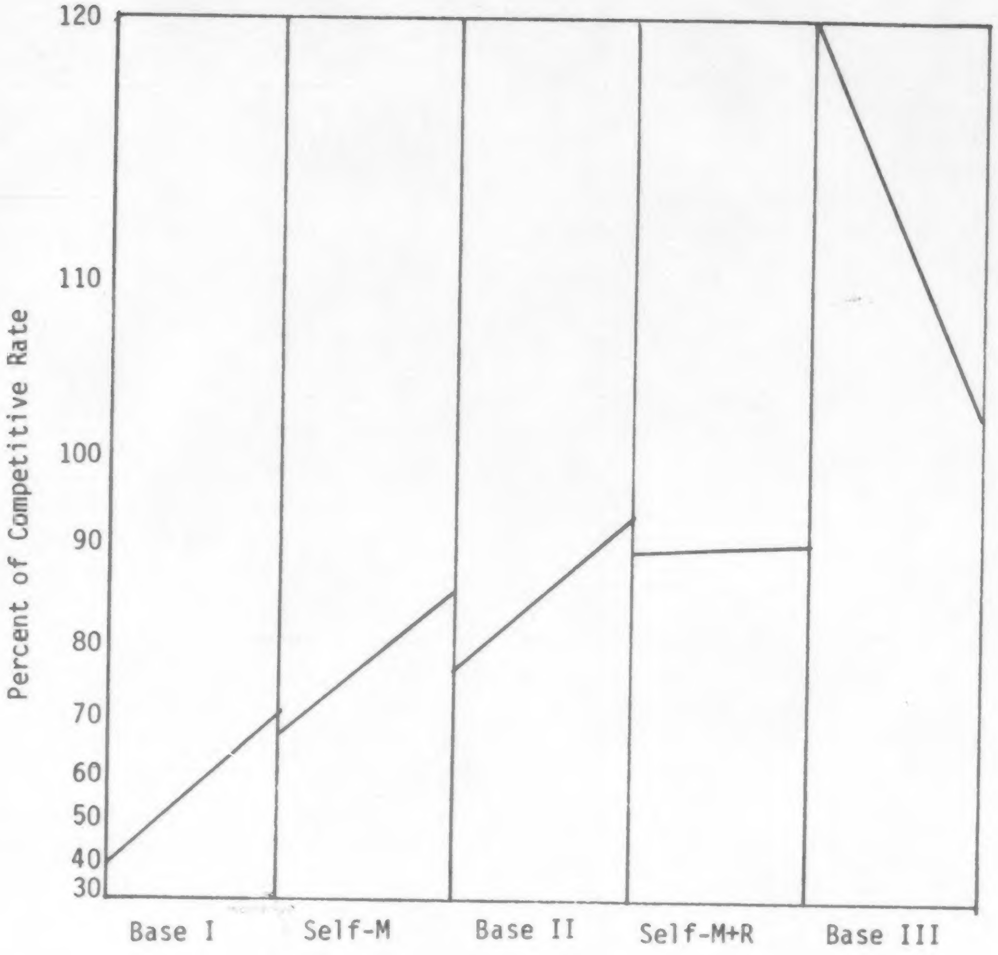

Figure 1: Median Trend Lines of Performance Speed Within Each Phase of the Study for Subject A.

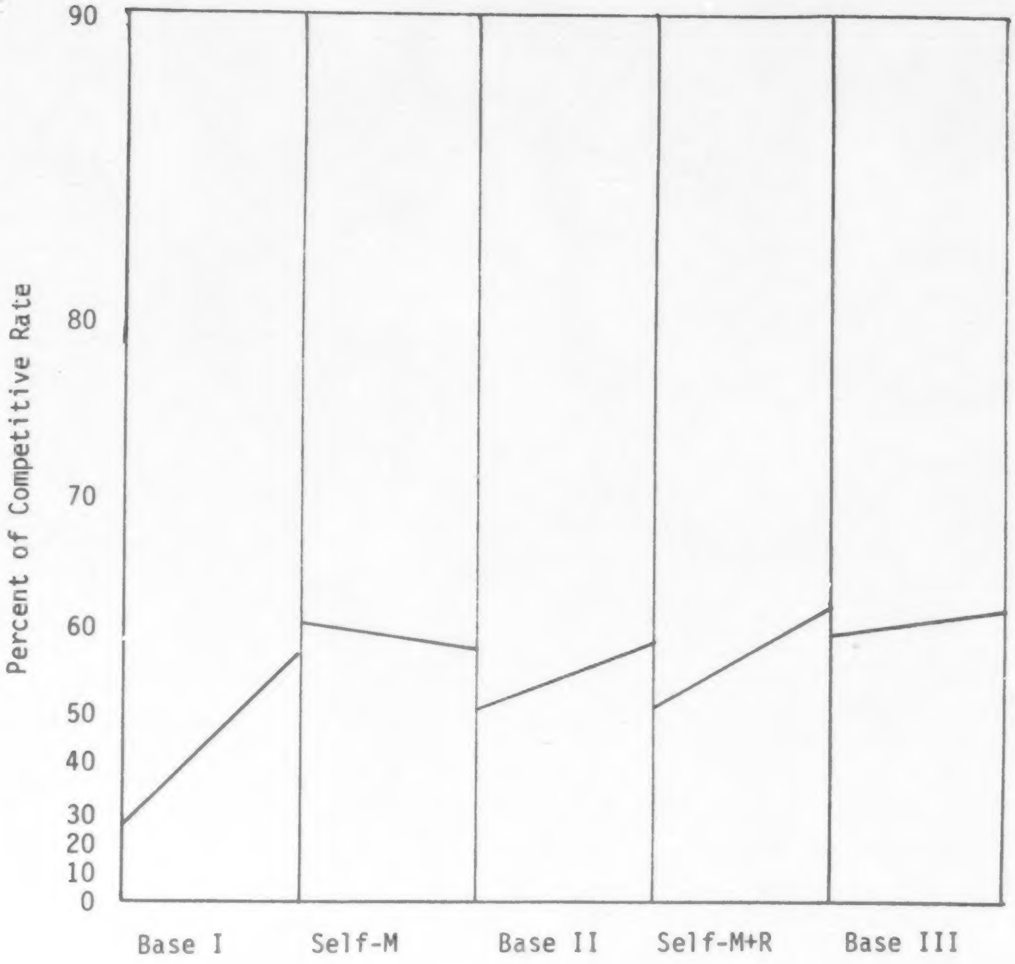

Figure 2: Median Trend Lines of Performance Within Each Phase of the Study for Subject B.

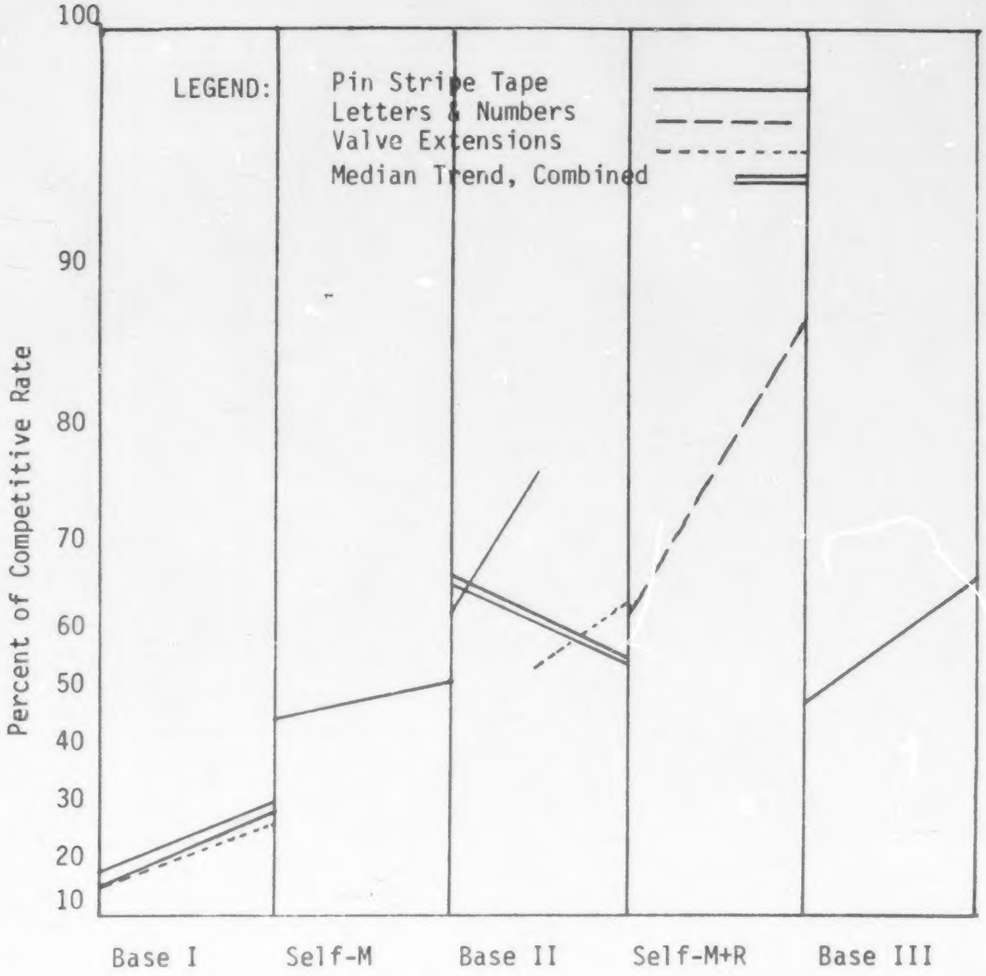

Figure 3: Median Trend Lines of Performance Within Each Phase of the Study for Subject C.

(Base II) immediately followed the self-monitoring period. At the conclusion of the five-day Base II period, a conference was held with each subject individually to explain the concept of reinforcement for performing the target behaviors. A discussion was held regarding the kinds of things that would be rewarding to them. A standard of behavior was established by the subjects, incorporating the information gathered during the self-monitoring period. The specific reward to be self-administered upon achieving that was selected from a list of those available. This information was then recorded in the staff and subject monitoring records. For the next 10 days, self-monitoring and self-reward (C) were in effect for each of the subjects. The last five-day period was another baseline (III), where staff observations only were recorded.

Results. In Figure 1, 2, and 3, median trend lines of performance are given for subjects A, B, and C for each phase of the study. Trend lines were used to ease in interpretation of effects and to compare results across subjects. Data are also available which show the actual data points. The analysis of trends was conducted first to determine whether there was some evidence of behavior control acquired and whether change could be attitributed to the introduction of self-monitoring (B) and of self-monitoring + reinforcement (C) treatment strategies.

With Subject A (Figure 2), little behavioral control is evident. From Base I thru Base III, performance tended to increase. In self-monitoring phase + self-reinforcement, behavior leveled off, but increased during Base III (note the apparent large difference between "Self-M+R and Base III is due to the trend analysis techniques, for the last day in Self-M+R was not dramatically different from the first day in Base III).

For Subject B, performance increased during Base I and remained similar throughout the remaining phases. For Subject C, a multiple baseline was used for various tasks on which performance increased. Subject C data indicate that both the self-monitoring treatment and the self-monitoring plus self-reinforcement produced performance increases over the previous baseline, and a decrease during Base III, after the latter treatment phase (Self-M+R).

Conclusions. It should be obvious that the study did not result in the acquisition of precise control over performance behavior. Despite the fact that each subject was in the adjustment program and had worked on the tasks selected prior to the initiation of the study, stable baselines were not obtained during Base I. Nor did performance behavior return to the level in Base I during Base II and III. Thus, the changes during the treatment phases cannot be attributed directly to the techniques of self-monitoring and self-monitoring plus self-reinforcement.

Four major areas are of concern in the conduct of the study:

1. To what extent could effects explain the trend to increasing performance trends.

2. To what extend could a Hawthorn effect explain the increased performance trends.

3. To what extend did certain failures in carrying out the procedures explain the results.

4. To what extent did changes in the subject's lines affect performance.

5. To what extent did uncontrollable changes in the general adjustment program and work task continue to affect performance.

Discussion. This pilot study indicated the complexity of implementing precise behavioral change techniques within an experimental model of causality.. Clinically, however, the procedures were effective in that all subjects increased performance over the Base I period, but experimentally, the factors controlling that performance increase could not be identified precisely. Obviously, further research is needed in the area.

The study provided the Center with a thorough review of the literature which should be valuable to practitioners, researchers, and educators concerned with the area of self-control of behavior. This review will be made available for dissemination in a format suitable for the audiences. Secondly, it served its pilot study function by pointing out the limitations of the ABACA design and problems which would be expected to occur with such research in the applied setting.

Given the results of the study, this project itself is formally terminated. The literature review from the study, its results, and the consideration detailed in earlier sections of this project will be used to generate a proposed project in this area with a more adequate design and control over compounding factors.

12. Dissemination of Findings

Center Research Reports

Results of all data analyses will be disseminated in specific Center research reports. These will be sent to all state agencies, to professionals within the field of vocational adjustment, and to abstracting publications.

Journal Publications

Significant findings and implications will be prepared for journal publications such as Vocational Evaluation and Work Adjustment, Rehabilitation Counseling Bulletin, and Journal of Applied Rehabilitation Counseling.

Training

Findings will be incorporated into the Center training programs in vocational evaluation and vocational adjustment. Workshops on the specific techniques of this project will be conducted if warrented.

13. Utilization of Findings.

This project is designed to explore the use of a therapeutic technique with vocational adjustment clients. Should the data indicate some positive effects of self-monitoring, an interface publication describing this treatment will be developed and disseminated to facility personnel in the field. Projected research could also examine the parameters of the use of this and other self-control procedures and, consequently, refine the technology for potential use by others. In total, this research could result in an increased effectivenss of the services provided to rehabilitation clients by our present facilities.

14. Policy, Program, and Practice Changes.

This project's major impact would be on practice changes in vocational adjustment programs. Through a currently completed workshop on adjustment specialist's competencies, the major conclusion was that these specialists should have behavior change techniques as one of their primary, basic skills. This project will add to the repertoire of adjustment specialists by adding a workable skill. The secondary impact, and more general, is that of emphasizing the necessity of clients being taught to assume control over their life and over their own rehabilitation.

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RESEARCH PROJECT REPORT

Project No. R-48

1. Title The Placement Process in the 1980's

2. Project Status (Check):

Proposed ___ New x Continuing ___ Completed ___ Discontinued ___

Transferred ___ Other ___

3. Beginning: 3/81 (mo/yr) Expected Completion: 3/82 (mo/yr) Completed: ___ (mo/yr)

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Vacancy	Research Specialist	10	35
Charles Coker Ph.D.	Psychology	10	15
Fredrick Menz, Ph.D.	Measurement and Assessment	5	
James Herbert, M.A.	Vocational Rehabilitation	10	10
Clerical		10	10

5. Financial Data:

Estimated Cost From Beginning to End of Project: 67,780

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80 81	81-82
Personnel Costs	12,384	22,920	1,684	2,437			14,068	25,357
Supplies and Other Expenses	2,945	3,402					2,945	3,402
Travel	1,110	1,504					110	1,504
Equipment								
Indirect Costs Allowed by DE	2,466	4,174	5,157	7,597			7,623	11,771
Total	18,905	32,000	6,841	10,034			25,746	42,034
Percent	73	76	27	24			100	100

*For report year and continuation year

6. Statement of the Problem

Purpose

In 1972, the Center began state-of-the-art studies on various aspects of the rehabilitation process. One of several reviews which were published was on Placement (Project R-15). The review was published in 1974 and the final report of the project contained administrative, program, and research recommendation Since 1974, the monograph on Placement (Dunn, et al., 1974), has been widely used in education programs and quoted frequently in other reviews and research Further, questions arise as to the impact of legislative mandates emphasizing the rehabilitation of the severely disabled on the placement process.

The Center's resources were insufficient to continue research in the area of Placement until the receipt of supplemental funding in late 1980. The purposes of this research project are (1) to update the 1974 monograph through a review of the literature and based on comments received from the field, (2) to reevaluate the recommendations made in 1974, (3) to develop a dictionary of Placement terminology, (4) to suggest models for the delivery of Placement services for the 1980's, and (5) to develop further research projects based on the activities for 1982-1983. These activities are expected to be essentially completed within one year of initiation.

Introduction

Estimates of the number of people age 18-64 who have work disabilities vary considerably. These estimates range from 12 million (Fechter and Thorpe, 1977) to 23.3 million (Urban Institute, 1975). Other estimates fall in between. The target population for rehabilitation efforts to assist handicapped individuals obtain gainful employment is, thus, very large. More than ever, there exists a need to examine how best to place handicapped individuals in the world of work and to develop alternate methods of "Placement" for those who cannot function in competitive employment. The purpose of this project is to review and attempt to synthesize the literature in Placement and to develop the central issues which research should address.

In this section, an overview of the Placement process will detail some of the concepts and techniques utilized in this ever expanding area.

Placement in Rehabilitation: The Process. The vocational rehabilitation system is designed to increase the capacity of the handicapped individual for attaining gainful employment. Basically, a person is considered rehabilitated when, among other things, she/he has been:

> "Determined to have achieved a suitable employment objective which has been maintained for a period of time not less than 60 days (U.S. Department of Health, Education, and Welfare; 1974b- 42482)."

Such an outcome is called Status 26 Closure by the Vocational Rehabilitation system.

The definition of Placement was designed to measure the effectiveness of the rehabilitation efforts. It must be recognized that such a measure has its limitations in that it may not represent the impact of rehabilitation services which increase the ability of handicapped individuals to function more independently than prior to services, but who do not become employed. On the other hand, employment statistics also may not reflect an adequate rehabilitation since "sixty days of employment" does not measure the quality, duration of employment, consistency with the individual abilities, or career mobility opportunities. Despite its limitations as a measure of rehabilitation, Placement is often used as the statistical measure of effectiveness; and, Placement techniques and strategies are applied across the nation in a variety of rehabilitation settings.

The activities in which the rehabilitation counselor engages and/or the services which may be purchased by the counselor are directed toward the rehabilitation of the client. Most of these efforts are directed toward increasing the capability of the client to function in a particular work situation or occupation (employability). Such services include assessment, diagnostics, physical restoration, psychosocial adjustment, and vocational skill training. Other services are directed toward assisting the clients' capacity to be ready for and obtain a specific job (placeability) in the situation or occupation for which they have been made employable. Placement is a term that will be used to define those activities that are undertaken to actually ready and employ the individual in a specific job or work situation. The process may range from reliance on the charisma of an individual counselor to sell a client to a prospective employer through an intensive program which may consist of various activities such as employment readiness training, job development, job modification, job coaching, and long-term follow-up conducted by a Placement team.

Though Placement reflects those activities which supposedly impact on the most commonly used measure of the success of the rehabilitation system (i.e., numbers of individuals directly employed), the process of Placement is not given an official status in case flow management, the activities which make up the Placement processes are not clearly defined, and the practice of Placement varies considerably. In the next section, we will examine some of the diverse methods and techniques which are considered to be a part of the Placement process.

Minimum Placement Model. In the minimal Placement process, the vocational rehabilitation counselor judges the client ready for employment, assists the client in selecting differing jobs to apply for, and sends the client to the job interview. The client obtains the job, is employed for sixty days, and the counselor closes the case as successfully rehabilitated. These activities could be considered to make up the Minimum Placement Model which is appropriate only to certain handicapped individuals.

The Minimum Placement Model is clearly not applicable to most severely handicapped individuals. Further, the emphasis on serving the severely handicapped makes it likely that such a model will be applicable to smaller percentages of the handicapped population. Formal methods and techniques have been developed and more are being developed which increase the functional ability of clients for gaining appropriate employment. Some techniques are directed toward the external labor market to develop and create jobs for handicapped individuals. Other techniques examine ways to modify jobs so that the handicapped individual can successfully perform the productivity aspects of the job.

Client Assistance. The handicapped individual who is referred to a Placement process is typically considered employable, but not yet placeable. Clients are not placeable by definition (i.e., a client is placeable when he has been employed). The client focus is on preparing for employment, finding a job, and maintaining a job.

Various activities occur in assisting clients for Placement and can be classified under the general rubric of "Employment Readiness Training." In Employment or Job Readiness Training, the client receives instructions in various aspects of applying for a job, interviewing for a job, and preparing for what may occur on the job. There are a number of variations of this theme and some programs encompass more activities than others, but the important aspect of such training is that it prepares the client for seeking employment (e.g., Job Seeking Skills, VDC, 1979). Such training is the initial aspect of the Placement process preceeding actual job seeking. Some Employment Readiness Training stops at this point, expecting the client to have the skills to search for and find employment. Others include the process of actually seeking jobs and interviewing (e.g., "Job Club," "Job Factory"). Again, various activities may be engaged in, but the goal of these additional components is to assist the client until employment is found. Once employed, the client may encounter difficulty in maintaining the employment for a variety of reasons. Again, some Employment Readiness Training programs include activities undertaken to ensure that the client adjusts to the job and continues to be employed (e.g., Job Coaching). The length of time that employment maintenance activities may be offered varies.

Accessing the Labor Market. A number of activities directed toward the external world of work are necessary in the Placement process to gain access to the employment market for handicapped individuals. Primarily, these activities relate to Job Development.

It is a necessary step to develop information about the types of jobs available which go beyond a daily screening of the newspaper want ads. The development of a Job Information Bank or accessing ones that are available ensures that all resources are made available for the client who is seeking employment. Various techniques are developed to gain and use information about jobs in the local area as well as labor market trends for these occupations. A necessary component of job development is that of cultivating relationships with the industrial sector which may range from a formal structural basis to an informal personal basis. As is evident, the techniques can range from the initial contact with the personnel manager of a business to agency relationships with large sectors of the business community (Projects with Industry, for example). The methods are designed similarly to those one would engage in if attempting to build a market for a product. The principal concept here is to access employers by demonstrating that handicapped individuals can fulfill a business' personnel needs.

Once a process has been put in place to develop information on available jobs and access to employers has been achieved, a third activity can be undertaken which attempts to create jobs in the labor market which were not available before. In this category are methods such as: Job Creation, Job Modification, and Job Restructuring.

In Job Creation, positions within an industry are created to employ certain handicapped individuals. Such a method tends to be precarious and subject to revision if company personnel or policies change. In Job Modification, the prevailing method of doing the job is reanalyzed so the same task can now be accomplished in a different manner by handicapped individuals with different disability conditions. In Job Restructuring, a complex analysis of a work situation or company is undertaken to restructure how the tasks might be differently arranged, resulting in new positions which handicapped individuals may successfully do or do with the assistance of Job Modification. Job Analysis is a necessary technique in preparing for Job Restructuring and is also useful in Job Modification.

In the preceding sections, we have attempted to discuss methods and techniques aimed at impacting on the client's ability to gain employment and the labor market's capacity to employ the handicapped. A third major area is that of innovative methods which exist in the external modification of the client's capacity to function in conjunction with job development activities. These are innovations in rehabilitation engineering and computer technology which not only enable clients to do jobs they could not do ten years ago, but also have developed new jobs which clients can do that were not available ten years ago. This aspect of the Placement process is one which must be continuously updated as such changes occur. It is simply a factor within the whole Placement process which must be considered.

Who Does Placement? The responsibility for Placement and the role of a trained Placement Specialist is one major area of concern in the rehabilitation system. Many states are attempting to cope with this issue. The dilemma centers around the fact that the rehabilitation counselor is responsible for placement of his clients. Yet, unless the rehabilitation counselor is trained in the various aspects of the Placement process, he is unlikely to be competent. Further, how competent should he be? Should the counselor conduct employment readiness training, job development, plus do the rehabilitation engineering aspects for severely disabled clients? What about his training in counseling functions as a rehabilitation therapist? Finally, what will the present emphasis on Independent Living Services add to his competency requirements? Truly, the competencies required of the rehabilitation counselor are beyond the ability of a generalist. The answers are critical.

The above general factors reviewed are not exhaustive nor may the terms be as precisely defined as some experts may desire. Other issues such as service delivery models for Placement, the training of Placement Specialists, the role of labor market factors, the responsibility of business to meet federal requirements, the role of post-placement and job adjustment services, the development of career mobility for the employed handicapped, and a variety of other issues, methods, techniques, practices, policies, and legislation would all have to be considered within a programmatic core of research addressing enhanced employment potential for the severely handicapped.

Perspectives on Placement. Legislation in the past decade has mandated that the rehabilitation system increase its emphasis on serving the more severely disabled. The result has been fewer placements of handicapped individuals in employment settings. This reduction in employment does not necessarily mean that the rehabilitation system has become less effective in impacting on the lives of the handicapped population, but does indicate that placement of the severely disabled is more difficult than placement of the non-severely disabled. More resources are being channelled into readying the individual for employment than in placing the individual in employment.

It is helpful here to understand the distinction between "employability" and "placement" (Gellman et al., 1957). Employability refers to the capacity for the individual to function in a particular occupation or work situation. Placeability, on the other hand, refers to the probability that the individual will obtain work in a particular occupation. It is important to acknowledge that employability and placeability are not simply sides of the same coin, but involve different sets of client knowledge, skills, and experience as well as different external conditions.

In one sense, the traditional vocational rehabilitation system can be divided into two areas which are roughly equivalent to the distinction between employability and placeability. Employability is enhanced by counseling, assessment and diagnosis, physical restoration, psychosocial adjustment, education, skill training, and independent living training. Placeability is enhanced by employment readiness training, job seeking and finding, job development, job modification, job restructuring, and lastly, but most importantly, employment. In this sense, traditional rehabilitation services (except placement) have focused on changing the individual, while placement focuses more on preparing for, accessing, and entering the external world of work. The change from "rehabilitation" to placement for the client marks a transition to a new situation with different expectations and outcomes. Similarly, the rehabilitation counselor who is responsible for Placement, must often change from a therapeutic change agent to a broker attempting to assist clients to prove themselves in the world of work. As Usdane (1976) and Dunn, et al., (1974), and others have pointed out, the rehabilitation counselor may be ill-equipped to carry out the Placement role.

The literature presently abounds with Placement service delivery models, techniques, and practices. Previous reviews of such literature have suggested that literature cannot be organized around any central or recurring themes.

In 1974, Dunn wrote:

> "Once I started reviewing the literature, it became obvious . . .that much of it was repetitious. It also seemed fragmented and unattached to anything." (p I)

In 1976, Zadny and James' first sentence is:

> "The abundance of writings on placement in vocational rehabilitation attests to an accumulated wisdom and sophistication which is not borne out by careful inspection of the materials and is clearly contradicted in practice." (p 1)

Finally, in 1979, Vandergoot and Worrall similarly impressed by the lack of synthesis in Placement research, quote these same sources, and write:

> "The fragmentation in the literature stems from many sources . . placement related to virtually all phases of rehabilitation leading to a tremendous diversity of perspective on the subject. . .One is the issue whether or not a given agency is structured to encourage placement as an outcome. . .accompanying this diversity in placement issues and perspectives has been continuing uncertainty over the appropriate roles and functions of rehabilitation professionals (in the placement process). (p. 15)

Meanwhile other efforts have been directed toward involving the business sector in the Placement process on a formal basis, such as Projects with Industry and affirmative action regulations. Remarkably, rehabilitation reviews have ignored or only briefly mentioned the efforts of the business world in Placement of the handicapped individuals.

The review of Placement by rehabilitation professionals, reviews of the business sector's initial efforts in the hiring of handicapped individuals (spurred by legislative mandates), and the review of job-search assistance techniques (Wegmann, 1979) lends to an empirical observation that might offer a new perspective on some of the problems with Placement that apparently frustrate educators, administrators, and practitioners in rehabilitation. Placement is not solely a rehabilitative process or service, but is a multifaceted process with its own characteristics. Further, the Placement process, though distinct, is a necessary outcome oriented process that must be part of the rehabilitation system.

Such an observation is supported by the realization that individuals without handicaps undergo a Placement process leading to employment. The Placement process does not terminate until the individual is employed. Secondly, the Placement process, even for the non-handicapped is not easy and requires the individual to accommodate to the realities inherent in the world of work. Individuals without handicaps do not receive rehabilitation services, even though they may receive professional counseling, skill building, and other supportive services to find employment. Placement is a difficult process for all individuals. It is also clear that it involves learnable skills and professionals trained in the Placement process can decrease the time it takes to find and maintain employment (Azrin, Flores, & Kaplan, 1975; Benson & Whittington, 1973; Brandzel, 1963; Brewer, Miller, & Ray, 1975; Cuony & Hoppock, 1954; Currie, 1974; Keith, 1978; Kemp & Vash, 1971; Lasky, 1970; McClure, 1972; Way & Lipton, 1973; Wegmann, 1979).

These observations are important, for they help to lend a perspective to the Placement process as one that can be a distinct activity external to direct rehabilitative services. For some rehabilitation professionals, there have been attempts to make the Placement process a therapeutic one in which rehabilitation professionals increase the employability of the client rather than engage in activities which are not rehabilitative in the true sense, but places the individual in a job. The distinction between Placement in rehabilitation for the handicapped and Placement for the nonhandicapped lies in the additional aspects imposed by disabling conditions. These added factors must be considered when reviewing an individual's readiness for placement, and makes Placement in rehabilitation more difficult than Placement for the non-handicapped. Secondly, the rehabilitation community has not yet developed the capacity and/or knowledges to assure placement of all severely disabled persons, and for now, certain handicapped individuals cannot be placed; thus, alternate measures of effectiveness (i.e. closure) must be utilized other than competitive employment. Such individual may require continued supportive services and aides, either from rehabilitation or from other sources.

It has been a lengthy discussion to make the simple point that Placement may be viewed as a distinct process from the traditional rehabilitation process. It is not really a new point. Lillehaugen (1964), Hutchinson and Cogan (1974), and Usdane (19 , 1976) have suggested distancing counselors from the Placement process and advocated the training of Placement Specialists. Further models of Placement have argued for team approaches to Placement (New York Model, Pennsulvania Model). It is not argued that Placement should be artificially separated from rehabilitation efforts. Rather, the unmistakable conclusion from the literature is that Placement is separated from rehabilitation by the philosophy of those who provide rehabilitation services and the skills they possess and the philosophy of Placement professionals and the skills that they deem necessary.

Too many rehabilitation professionals have written on the problems of rehabilitation services, professionals, and service delivery models in bemoaning the failure of rehabilitation to place clients. The major problem and the primary focus of this research in employment of the handicapped is not on the rehabilitation process, but on the private employment sector. Capable handicapped individuals are not competitively employed, simply because they do not have jobs. Why jobs are not available for handicapped individuals is more a failure of accessing the labor market than it is a failure of rehabilitation services. This focus, then, would enhance the Placement process in rehabilitation which would, in turn, enhance rehabilitation services.

Conclusions

In the process of organizing and evaluating the extensive material currently available, it became clear that our in-depth review was supporting the observations and conclusions arrived at by Dunn (1974) and Zadny and James (1976). One major observation is that the complexity of areas covered and the generation of approaches to Placement in vocational rehabilitation far exceeds the ability of the vocational rehabilitation system to incorporate a unified Placement model. The trend is increasing, as there appears to be an increase in advocates for various models, methods, techniques, tactics, delivery systems, and rationales.

A second observation, or impression, is the question of whether rehabilitation is different than Placement. This observation returns us to the distinction between employability versus placeability that was mentioned earlier. The impression is that one segment of the rehabilitation system is concentrating on increasing the employability of the handicapped population independently of placeability. Services are provided which increase the ability of the individual to function independently, become mobile in the community, enhance vocational skills, etc., of the client to "someday" allow him to enter the world of work. Indeed, some have advocated replacing employment as an indicator of success with measures of an individual's employability (Ehrle, 1968) or development/restoration of functional independence (Morris, 1973).

Those engaged in Placement have, by and large, accepted employment as the outcome criterion. However, they have also argued for more elaborate measurement of the quality, duration, and career opportunities of Placement (e.g., Dunn et al. 974). Further, Zadny (1979) suggests that the development of a Placement Plan in addition to the Individual Written Rehabilitation Plan may enhance the employment of the handicapped. The distinct impression is that there exists a dichotomy between "rehabilitation" versus "Placement."

The third issue, and one that may be obvious from our overview of Placement, is that the terminology in Placement is being coined at a rapid rate and from differing disciplines. To mention a few, job development, job creation, job modification, job restructuring, job analysis, job coaching, job clubs, employment resource units, employment readiness training, job readiness training, the Placement team, the Placement Specialist, career development, primary and secondary labor markets, Production Enhancement--Productivity Realization--Career Enhancement System (Vandergoot and Worrall, 197[illegible]), etc., makes it difficult to understand the Placement process. The fact is that the terminology is expanding beyond comprehension by individuals external to the Placement process and is adding to the division between "rehabilitation" efforts and "Placement" efforts. To a certain extent, this is caused by the adoption of terms from rehabilitation disciplines (medical, psychological, social and vocational) with terms from the business and labor market, community, industrial technology, and engineering. The result may be a new lexicon where everyone understands a little about nothing.

The fourth observation is the concern over the service delivery model for Placement. Despite the increasing evidence of the need for direct employment producing activities that the Placement process entails, the vocational rehabilitation system does not include Placement as a specific entity in the case flow management model. Presumably, this may be due to a historical expectation that each individual state rehabilitation counselor should place their own clients. In Dunn's monograph, a suggested alternate model of case flow is given which includes Placement as a specific status within the system.

The fifth and related observation is that it is unclear who actually does Placement. It is clear that the vocational rehabilitation counselor is still responsible for Placement, but varying models suggest the use of a team approach; a Placement Specialsit; Placement by private agencies; Placement through contract with facilities, etc.

Sixth, the review suggests the need for a Placement Specialist, but it is totally unclear what competencies, knowledges, experiential backgrounds such an individual should have, in what setting this Placement Specialsit could expect to function, and what relationship the Placement Specialist would have with others in the total rehabilitation process.

Finally, the review suports the belief that the changes mandated by the Title V sections of the Rehabilitation Act, Equal Opportunity, and Affirmative Action regulations are beginning to impact on the private sector. Unfortunately, neither the rehabilitation community or the private sector are quite sure how to meet these regulations. The reviews have omitted this aspect of the Placement process. The Projects with Industry are one example of the private sector's willingness to engage in formal relationships. It would appear that there is a tendency not to realize that a primary problem in Placement is accessing the labor market. A focus on the realities of the labor market which impact on the capacity of any Placement process to employ this clientele is important. From that perspective, more effective and efficient planning, development, and delivery of rehabilitative and Placement services should be realized.

Present Research

The project is designed to conduct a state-of-the-art update and analysis of change of the Placement process in rehabilitation since the Center's first review over seven years ago. The project also will serve to guide the overall programmatic line of research in Placement as well as to have important products of its own:

1. Monograph on Placement
2. Dictionary of Placement terminology

7. Objectives

The project has the following objectives:

1. To review the available literature on Placement services.
2. To identify and summarize:
    a. the goals and objectives of Placement
    b. current practices and techniques of Placement; particularly with different target groups
    c. new or innovative approaches from related fields that could be applied in vocational rehabilitation practice
    d. methods for determining the effectiveness of Placement services
    e. implications for policy, programs, practice, and research
3. To evaluate the utility and impact of the administrative, program and research recommendations suggested in 1974.
4. To revise the 1974 monograph on Placement.
5. To develop a dictionary of Placement terminology.
6. To develop further research projects in Placement.

8. Methodology

The project's activities do not require a formal research methodology, but rather require review of current literature, analysis of trends, analysis of reaction to 1974 Placement monograph, analysis and evaluation of Center's 1974 recommendations, synthesis of all those resources, and a great deal of writing for objectives 1-5. Objective 6, development of further research projects, will be by-products of this developmental project in Placement and will follow the formal review procedures of the Center and NIHR for proposed projects. The Director of Research and the new Research Specialist will co-author publications from this project.

Presently, the existing vacancy is expected to be filled in March, 1981 and the project formally will be initiated at that time. Obviously, a great deal of review and analysis has preceded the scheduled initiation of the project and a twelve month timeline would appear feasible.

Timeline

March, 1981	Continue identification, acquisition, and review of relevant materials.
June, 1981	Complete review and begin analysis and synthesis of issues.
September, 1981	Complete analysis and synthesis. Plan dissemination activities: a. Revision of 1974 monograph b. Dictionary of Placement terminology. c. Proposed research projects in Placement. d. Applicability to training programs.
January, 1982	Complete final drafts of publication.
February, 1982	Complete all revisions, send publications to printer, and terminate formal activities under this project.
March, 1982	Disseminate all materials.

9. Relevance of the Problem

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

From Figure 1, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, and R-50).

This project builds the basis for programmatic research in the area of Placement. The findings from this project plus the reviews and initial results from Project R-49 (Employment Models) and Project R-50 (Employment Readiness Training) will give the Center a very comprehensive overview of Placement in rehabilitation and accessing employment in the private sector.

To Rehabilitation

The initial review of literature has already indicated the need for such a project and for a line of programmatic research in this area. Despite the fact that the ultimate goal of rehabilitation is the employment of handicapped individuals, which leads to full independent living, no other Research and Training Center has a core area in Placement. The present research within this core focus will provide three main products directed toward enhancing employment for the handicapped individuals: Overview of the Placement process, Employment Readiness Training for clients, and industry-based models for employment of the handicapped. This particular project will provide issue analysis to assist policy and program decision-makers and a dictionary of Placement terminology for all rehabilitation practitioners. Most importantly, it is hoped that the efforts will emphasize the necessity of viewing Placement as a simple outcome of prior rehabilitation services, but that Placement is a complex process which requires distinct steps which must be undertaken to make the Placement process itself successful.

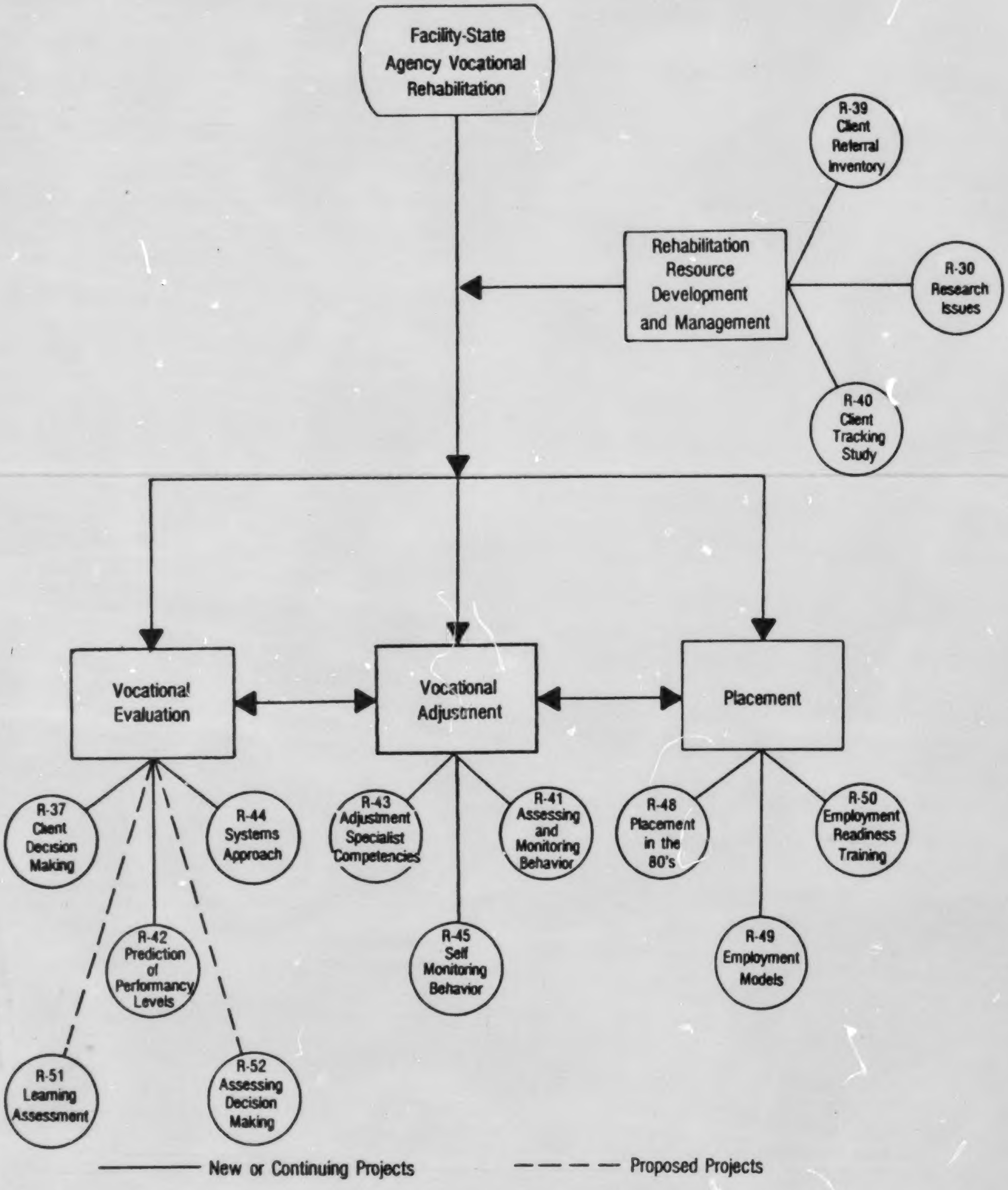
Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

10. Client Characteristics

No clients will be involved in this study.

11. Current Year's Activity

This project does not formally begin until, March, 1981; however, a great deal of preparation preceded the development of the project: Placement literature has been reviewed, the proposal for a project in this area was successfully peer reviewed, this project itself has been reviewed by the Advisory Council in November, 1980, and the Introduction section of the project and the selected bibliography are available for limited dissemination. Approximately fifty copies of the Introduction with its brief review and conclusions have already been disseminated on a request basis.

Final screening of candidates for the research position has been conducted and the vacancy is expected to be filled prior to NIHR's receipt of this Progress Report.

12. Dissemination of Findings

The findings of the study will be disseminated through:

A. Publication of project's findings:
  1. After review of literature, a "state-of-the-art" paper will be published which contains an overview that addresses issues within Placement and will contain a comprehensive bibliography.
  2. A second publication will be a Dictionary of Placement Terms.
  3. All publications will be made available to the Materials Development Center, NARIC, and other information dissemination and utilization centers.

B. Publication in the Center's RTC Connection.

C. Journal articles as appropriate.

D. Incorporation of findings in Center's current training programs.

E Development of new short-term training programs for facility rehabilitation personnel, providers of Placement services, state agency personnel, and industry personnel as appropriate.

13 Utilization of Findings

The findings would be expected to be utilized by researchers, trainers, educators, practitioners, program administrators, and policy makers throughout rehabilitation. One product would be a monograph and summaries of findings targeted to policymakers, program administrators, vocational rehabilitation counselors, and trainers. The state-federal vocational rehabilitation program will benefit from use of the research product since identification and implementation of state-of-the-art Placement practices will enable the program to better meet its annual performance objectives. The Dictionary of Placement Terms will be geared toward practitioners within rehabilitation.

14. Policy, Program, and Practice Changes

The study would have numerous implications for policy, program, and practice changes in the vocational rehabilitation program. These implications are briefly described below:

A. Policy Change: The primary policy implication may be increased emphasis on the quality of job placement as a rehabilitation goal. Measures of success currently focus upon quantity of closures and do not take into account the quality of outcome. The latter can be indicated by such variables as level of income and opportunity for advancement.

B. Program Change: Two basic programming changes will be evaluated in detail. The first involves a relabeling and redefinition of Statuses 20 and 22 to "Placement Services" and "Job Adjustment Services" respectively. This change would be readily implemented and would encourage better provision of these services. The second basic programming change revolves around active intervention in local labor market structures to develop and secure adequate employment for the disabled. This intervention can take many forms, including the development of comprehensive job development teams in local vocational rehabilitation offices.

C. Practice Changes: Numerous practice changes have been suggested. Among these were : (1) improving access to occupational information by providing all counselors with copies of the Dictionary of Occupational Titles, Occupational Outlook Handbook, and computerized job bank data on the local market, (2) development of individual Placement plans; and (3) encouraging the development of Placement and post-Placement resources within the community by routinely allowing vocational rehabilitation counselors to purchase these services.

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APPENDIX A

Administration, Program and Research recommendations based on the conclusions drawn from Project R-15, Placement Services in Vocational Rehabilitation (Completed December, 1974).

Appendix A

Administrative and Program Recommendations

The recommendations included in this category are those which can be implemented by administrative order or regulation. In general, the evidence is available to indicate that the implementation of these recommendations would improve placement of the disabled.

1. Clearly state the goal of vocational rehabilitation in concrete, employment related terms.

2. Report closure statistics in job related terms, including earnings and occupational distributions of rehabilitants as compared to non-disabled workers.

3. Incorporate a career placement emphasis into the program by specifying long range vocational objectives for clients served at the time the initial rehabilitation plan is developed.

4. Provide all rehabilitation counselors with ready access to occupational information resources, including the Dictionary of Occupational Titles, Occupational Outlook Handbook, other print and non-print media, and local information sources, such as Job Bank.

5. Provide all counselors with training in the use of occupational information in the rehabilitation process.

6. Establish regular and systematic procedures for obtaining and disseminating local labor market information, particularly relating to performance and behavioral requirements.

7. Develop procedures to insure that clients maintain their social contacts with employed friends, relatives, and acquaintances, particularly during lengthy vocational rehabilitation programs.

8. File complaints on behalf of disabled persons under the affirmative action regulations.

9. Provide case records to disabled persons desiring to document their affirmative action complaints.

10. Purchase and use the Job Seeking Skills program in each local office.

11. Develop procedures for becoming involved in and changing local labor market structures and practices.

12. Recognize that comprehensive job development includes a variety of activities and roles which cannot be performed by a single person.

13. Establish a clearinghouse for job modification techniques and practices.

14. Provide state legislatures with data on the number of times disabled persons encounter placement difficulties because of architectural barriers to encourage legislation to remove barriers in existing structures.

15. Develop placement and post-placement service manuals for professionals and employers working with the disabled to parallel those the Department of Labor has developed for use with the disadvantaged.

16. Eliminate the single standard of 60 days in employment prior to closure in favor of a flexible standard encompassing the entire high risk probationary period, with a minimum of 60 days.

17. Recognize the widespread negative attitudes of rehabilitation counselors toward engaging in placement activities and the futility of forcing them to do so.

18. Make better use of Employment Service placement expertise by involving Employment Service counselors in meaningful, day to day, client based contacts.

19. Encourage the development of community placement and post-placement services by routinely allowing counselors to purchase these services.

20. Relabel and redefine Statuses 20, 22, and 26 to provide a clear place for placement and post-placement services in the vocational rehabilitation process.

21. Reguire rehabilitation counselors to prepare a comprehensive placement plan on all persons placed into Status 20.

Research Recommendations

The recommendations in this category relate to identified knowledge gaps in placement services and the research necessary to remove these gaps.

1. Determine the relative value of vocational and therapeutic counseling emphases to the vocational rehabilitation process.

2. Determine the most effective means of integrating occupational information into the vocational goal planning process.

3. Determine the most effective approach to train disabled persons (and various sub-groups of persons) in decision-making skills.

4. Determine the effectiveness of the "place and train" approach to vocational rehabilitation with different sub-groups of disabled persons and in different geographic areas.

5. Survey the different types of job search methods used by the disabled and determine the relative effectiveness of each.

6. Investigate the relative effectiveness of monetary rewards and social reinforcement in generating job vacancy leads.

7. Investigate ways in which contacts with employed persons can be developed and maintained by the disabled.

8. Determine the stereotypes held by hiring agents, supervisors, non-disabled workers, and rehabilitation personnel toward the disabled and various sub-groups of the disabled.

9. Investigate Korman's hypothesis that the behavior and expectancies of others toward the disabled is a basic source of job maintenance problems.

10. Investigate the application of a third stage job development program by funding a Projects With Industry grant to a local vocational rehabilitation office.

11. Survey the post-employment problems of the disabled and determine when in time these occur.

12. Establish job development teams with different staff compositions in local offices to determine the optimal staff composition to use with disabled persons.

13. Conduct a demonstration project using increased counselor placement activity, expanded purchase of placement service, expanded use of the employment service, a job development team, and the "standard approach" in five local offices to determine which approach is best.

14. Investigate the role of co-workers in the job adjustment of the disabled and develop intervention strategies with co-workers.

RESEARCH PROJECT REPORT

Project No. R-49

1. Title An Information System for an Industry-Based Employment Model

2. Project Status (Check):

Proposed ___ New x Continuing ✓ Completed ___ Discontinued ___
Transferred ___ Other ___

3. Beginning: 3/81 (mo/yr) Expected Completion: 6/83 (mo/yr) Completed: ___ (mo/yr)

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
Vacancy	Research Specialist	5	35
Fredrick E. Menz, Ph.D. ·	Measurement and Assessment	10	
Charles Coker, Ph.D.	Psychology	5	10
Vacancy	Computer Specialist	5	30
Clerical		15	5

5. Financial Data:

Estimated Cost From Beginning to End of Project: 119,232

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	10,543	26,532	1,433	2,822			11,976	29,354
Supplies and Other Expenses	2,495	3,940					2,495	3,940
Travel	945	1,742					945	1,742
Equipment								
Indirect Costs Allowed by DE	2,097	4,832	4,391	8,796			6,488	13,628
Total	16,080	37,046	5,824	11,618			21,904	48,664
Percent	73	76	27	24			100	100

*For report year and continuation year

6. Statement of the Problem

Purpose

The historic goal of vocational rehabilitation is that of placing persons with handicaps into employment which is rewarding to them and society in that it is an optimal use of their vocational skills. Yet, inspite of the long history of this goal, empirically demonstrated models are not available.

Research under the Center's new line of research will systematically go about identifying and demonstrating effective models for accessing optimal employment opportunities for handicapped persons. Most employment options will continue to be in the traditional private sector. The search for empirically sound models and procedures, therefore, will be initiated with the study of an industry-wide approach advanced by the electronics industry. This project will focus on the model and national network of placement offices sponsored by the Electronics Industries Foundation through the Rehabilitation Services Administration Projects with Industry.

As this project is conceived around the mutual and complementing needs of the EIF/PWI, the Center, and the field for usable and accessible data/information on employment of handicapped persons in jobs in private industry, a major emphasis in the project will be on development and demonstration of an information system for the Electronics Industries Foundation (EIF) Project's With Industry (PWI). From such activities, threefold outcomes will result:

1. The EIF/PWI will have data with which to more effectively manage and evaluate its network of placement offices.
2. The Center will have immediate access to reliable data with which to determine the characteristics of handicapped persons and characteristics of available jobs and problems in private industry's employment of handicapped persons.
3. The Center may have long-term access to reliable data which may be useful in future comparative studies of other models.

Introduction

Research and training efforts under the Center's new line of research in employment will be directed at identification and development of procedures and models to access economically, personally satisfying careers for handicapped individuals, regardless of their disability. Many of the specific activities engaged in will comprise analysis and evaluation of the differential utility of promising models and practices for bringing handicapped individuals into competitive work at the employer's site and alternative models which lead to satisfying employment for persons presently unable to work competitively or for whom working in a traditional work setting is not reasonable.

The majority of placements of handicapped persons will be in the traditional employment setting, at a work site of the employer's choosing, and in jobs for which employers need employees (Coker, 1980). If useful techniques and models for employment of the handicapped are to be derived, a crucial area of consideration in employment research is with respect to the role, concerns, and problems which employers have in providing access to jobs for handicapped persons. As businesses increase their compliance with equal employment opportunities policies and their realization grows that handicapped individuals represent a virtually untapped labor source, more models based upon a labor-market perspective will be developed. This research project begins studying models and practices by first examining those based upon a business' perspective.

The Rehabilitation Services Administration's funding of Projects With Industry (PWI) was intended to capitalize upon a labor market perspective. Most PWI's so far (RUL-JVS, 1978) relate to a diverse set of local firms with which the PWI sponsor (usually a facility) has developed working contacts. Only two relate to an entire national industry: One is sponsored by the Electronics Industries Foundation (EIF); the second is sponsored by the National Restaurant Association.

EIF was incorporated in 1975 by the Electronics Industries Association (EIA). The EIA was established in 1927, represents over 280 of the major firms in the electronics industry in the United States, most of which have multiple plants and sites around the country, and collectively produce 90% of the total electronics product output in the nation. Members of the EIA Board of Directors are the chief corporate officers of their respective firms. This multi-billion dollar industry employs over 8 million skilled and semi-skilled workers and, unlike many industries, is growing and is expected to have increasing needs for skilled workers. Jobs in these firms span the full spectrum of job possibilities for handicapped persons, from basic assembly through complex machine operation and design, through high level technical and managerial positions.

The RSA initiated the EIF/PWI network in 1977 to increase the employment opportunities of handicapped individuals served by the state program in the electronics industry (Geletka, 1980). The EIF/PWI continues to be funded by RSA, with additional funds provided by the EIF and the Department of Labor. Since its inception with one site at Los Angeles, four more offices, in Boston, San Francisco, Minneapolis, and Chicago have been opened and a sixth is being opened in Phoenix/Tucson area.

The principle operational concept of the EIF/PWI is that of "marketing" or "brokerage." The EIF/PWI serves as a broker between rehabilitation agencies and facilities who have clients ready for employment and local electronics firms having job openings. The brokerage role played by EIF/PWI is in alerting rehabilitation personnel about openings, industry about possible employees, both about potential matches, and arranging for movement of potential employees to specific employment. In a most elemental sense, the regional offices have as their common focal goal, "job-person matching."

As of February, 1980, 51,127 jobs have been referred to EIF/PWI by 184 participating electronics firms (Dunlap, 1980). Over 400 rehabilitation agencies and community groups have referred 3,457 handicapped individuals and 351 of those referred have been hired by the industry. Possession of needed skills to do referred jobs is reported to be the principal reason for hiring these handicapped persons. Plans have been initiated to incorporate a skill training function along with the brokering function at the Boston site. Such a function is expected at other sites as need dictates.

Each EIF/PWI local office is staffed to coordinate and carry out the referrals from industry and from rehabilitation agencies and community groups. Open communications with rehabilitation personnel is maintained through each office's Community Advisory Board. Lines of contact and access to the local electronics firms are maintained through the Industry Advisory Board. Members of that board are key policy makers and decision-makers in the firms, generally corporate officers or personnel directors. Together, the two boards constitute the office's Area Advisory Board. A parallel National Advisory Board provides similar continuity at the national level.

Designing and installing a model of such industry-wide scope for research purposes would be beyond the potential funding for this Center. It is also unnecessary at this point in the research. A key component in the EIF/PWI model which has not been available to the present is an organized data base which EIF/PWI can use to efficiently manage and evaluate the network's effectiveness. Similarly, evaluation and demonstration of any model requires a data base containing elements related to key issues and dimensions of the model. Nonavailability of such a data base is most often the key stumbling block in conducting systematic research on any complex issue. Cooperative development of an information system for the EIF/PWI is expected to meet EIF/PWI needs for better management and the field's need to study and access models based in industry.

EIF/PWI needs to be able to determine what jobs and job classes are presently open in the industry; what handicapped persons (and their qualifications) are seeking employment positions; how specific jobs were filled and into what jobs handicapped persons are placed; projections of the availability and demand for specific types of job openings within industry and by rehabilitation clients; characteristics of qualified and nonqualified applicants for jobs; reasons for nonhiring of applicants; and projections of potential skill and behavioral areas for which training will be necessary and like the field at large, they need to know which job-person matching approaches are most effective, given the persons and kinds of jobs which are referred to each of the offices. The Center and field, in turn, need accurate and timely information on characteristics of the referred client (e.g., personal, disability related, vocational preparation, skills); characteristics of placed clients' characteristics of the jobs (e.g., firm level, skill requirement, DOT code); placement activities (e.g., referrals, interviews, preinterview preparation, routing methods, jobs interviewed for); hiring practices (e.g., reasons for hiring/not hiring, level at entry, wages at entry, status, training provided, job person correspondence); and impact of clients placed in business (e.g., productivity, cost for training).

Thusly, the project is conceived on the basis of mutual needs of the EIF/PWI, the Center, and the field for knowledge about effective placement procedures. As a result of the development and demonstration of an information system for EIF/PWI, the system should allow better management of the EIF/PWI employer derived model, provide reliable data with which to determine the characteristics of handicapped persons and the jobs for which they are hired in one key industry, and provide possible access to the reliable data needed to resolve other placement issues related to employer-applicant concerns or for comparative study of alternative models.

7. Objectives

Consistent with the problems and needs outlined above, four specific process and outcome objectives are pursued under the project.

1. Design and demonstrate an Information System for the EIF/PWI program network which is amenable to both research and management purposes.
2. Determine the characteristics of persons hired and not hired under the EIF/PWI model.
3. Determine types of jobs for which persons are and are not hired under the EIF/PWI model.
4. Design and conduct studies to identify concerns and problems faced by employers in training and hiring handicapped persons.

8. Methodology

Different procedures will be used for the four objectives and will be discussed separately. The first objective is the key process objective upon which attainment of the remaining 3 outcome objectives hinges. Development of the Information System (IS) is expected to consume the greater portion of this year's project efforts. The second and third objectives involve formal statistical analyses of the data entered into the IS by the national and local EIF/PWI placement offices. Both will begin to be addressed in the later months of the first project year and will be completed in the first half of the second year. The fourth objective will not be addressed until the second year. Specific questions will, however, be identified throughout the course of the first year by EIF/PWI's staff, Center staff and industry personnel as the IS is being developed, field tested and refined and, especially as activities pursued in the other projects (R-48, R-50) are completed under the Center's Placement line of research.

IS Development and Demonstration. The EIF/PWI IS will be developed using standard procedures. As Murdick & Ross (1975) describe procedures for developing and implementing an IS, four overall steps are involved: (1) Conceptualizing the general requirements of the system; (2) Planning the functional requirements and constraints of the system; (3) Designing the software networks, structure, and application programs; and (4) Implementing, utilizing and evaluating the system. Throughout the IS's development and demonstration, Center systems, computer and research skills will be augmented with consultant assistance of industry personnel and of information specialists at our primary computer site in Madison.

The IS is expected to be developed around the concept of "minimal utility criteria." That is, a minimal set of data elements (e.g., client age, job code) will serve as a foundation for the IS, based upon the specific kind of questions which EIF/PWI, the Center staff, and relevant advisory sources will need to have answered. As more specific questions or issues arise, then discrete information modules can be appended to the IS for as long a period of time as the need for that information remains.

These criteria are seen such that at given points in time, users of the IS should be able to know what jobs and job classes are presently open in the industry; what handicapped persons (and their qualifications) are seeking employment positions; how specific jobs are filled and into what jobs handicapped persons are placed; projections of the availability and demand for specific types of job openings within industry and by rehabilitation clients; characteristics of qualified and nonqualified applicants for jobs; reasons for nonhiring of applicants; and projections of potential skill and behavioral areas for which training will be necessary. Further, at a given point in time, accurate statistics should be able to be generated with respect to characteristics of the referred client (e.g., personal disability related, vocational preparation, skills); characteristics of placed clients; characteristics of the jobs (e.g., referrals, interviews, preinterview preparation, routing methods, jobs interviewed for); hiring practices (e.g., reasons for hiring/not hiring, level at entry, wages at entry, status, training provided, job-person correspondence); and impact of clients placed in business (e.g., productivity, cost for training).

The activities under this objective will produce a system which meets those criteria and also has sufficient built-in safeguards to insure integrity of its data and the privacy of the individuals and organization to whom that data refers. The following discrete steps are standard ones normally followed as part of Murdick's and Ross' four overall steps and will result in completion of this process objective. The first 5 steps have already been initiated:

1. Recruit needed computer and placement personnel.

2. Identify potential consultant and advisory resources.

3. Site visits to the EIF/PWI national office to identify general decision-making and information needs of that office and local offices.

4. Identify and review key information needs and/or issues respective to privately derived employment models with advisory committee.

5. Site visits to selected local offices to determine the unique features of their operations and to identify their key reporting, decision-making and information needs.

6. Site visit(s) to EIF/PWI national office to establish specific decision-making and information needs, and constraints of system for national and local offices.

7. Center staff devise tentative hierarchical information schemas.

8. Joint conference of national and local office administration to react to, select and subsequently redevelop the most advantageous schema.

9. Prototype forms, utilization procedures, and computer-programs developed at the Center.

10. Field test forms, procedures, and the computer-based IS with existing manual data to check basic assumptions regarding entry/access of data and utility of the information.

11. Initiate full-scale evaluation testing/implementation of the IS.

12. Periodic analysis of the data base and develop profiles of person and job characteristics.

Evaluation of the IS in step 11 will begin in the 11th month and will initially focus on the IS's utility for the EIF/PWI national office and local office management needs. The basic question at the national level that will be answered through the judgements of operations personnel and senior decision-makers at that office is whether the data are more timely, accurate and offer greater flexibility for them in their study of the effectiveness and efficiency of the local offices. As the common goal among the field offices is one of optimal job-person matching, a key question that will be answered in evaluation of the IS for their purposes is whether the IS leads to selection or development of an effective/efficient job-person matching procedure.

Evaluation would expected to be completed during the first half of the second year. Based upon the design and the evaluation of the utility of IS for national and local needs, the IS will be documented in a research report tentatively entitled "An Information System for an Employer-based Employment Model." A second document is anticipated based upon local evaluation of the IS's utility and would be entitled "Effectiveness of Selected Job-matching Strategies in an Employer-based Employment Model."

Characteristics of Persons and Jobs Under the EIF/PWI Model. Three types of descriptive studies will be undertaken: (1) studies to determine the disability, vocational, and employment characteristics of persons referred and/or placed through the EIF/PWI; (2) studies to determine the characteristics of the jobs available and for which referred persons are and are not hired; and (3) studies to determine relationships between job and person characteristics. The findings of these studies will be detailed in a research report tentatively entitled "Characteristics of Persons with Handicaps and the Jobs They Acquire in the Electronics Industry."

As the above IS is finalized in the later part of the first year, these studies will be initiated, first by computing simple profiles of the data elements contained in the IS. Tabular (counts and percents) and basic (means, medians, standard deviation) statistics will be used at this stage.

In the first half of the second year, an Office (6 offices) Time (6 fiscal quarters) factorial design will be placed over selected data elements from the IS. This 6 x 6 design will be used to answer the fundamental "minimal criteria" questions posed (see paragraph 3 in the above section) in constructing the IS. Common characteristics of job or people across the United States will be available from examination of the Office effect, as well as geographic idiosyncrasies. Cyclic changes and potential patterns of changes in those job and person characteristics will be available from analysis of this Time effect. Analyses of the interactions of the two factors, especially with data on the relationships of job and person characteristics, will provide needed knowledge of local and geographic barriers to accessing employment opportunities and potential employment (and training) options for persons with handicaps. The appropriate statistical methods to be applied with this design will depend upon the specific metrics of the data elements which form the IS.

Concerns and Problems of Employers. The procedures to address this objective are, of necessity, loosely defined. The nature of the particular questions pursued will, in large part, determine the procedures. Those are the issues and questions identified during the course of the IS's development and field testing and, particularly, as a result of activities engaged in under two other Placement research projects: R-48 and R-50.

As it is the employee perspective which is to be focused upon, it can be expected that a questionnaire/structured-interview format will be employed as the basic method for collecting whatever additional data is needed. These data can be expected to be appended to data presently available in the IS (regarding jobs and their characteristics). Too, it is likely that a nested design (type of Employer/Job nested within Office) will be involved in isolating their common and unique perspectives and concerns in hiring handicapped persons.

Timelines

March, 1981	Fill Research Specialist vacancy.
May, 1981	Continue analysis of EIF/PWI and Center IS needs.
October, 1981	Complete overall IS needs analysis. Initiate design of IS system.
January, 1982	Conclude initial design and review with EIF/PWI.
March, 1981	Complete redesign of remaining components of IS.
April, 1982	Conduct field tests of IS software.
May, 1982	Initiate full demonstration and evaluation of IS.
June, 1982	Identify key questions for employer concern study. Begin analysis of job and person characteristics data.
August, 1982	Begin design of employer concerns study.

September, 1982	Initiate employer concerns study.
December, 1982	Complete evaluation of utility of IS for EIF/PWI network management.
January, 1983	Begin analysis of employer concerns data.
February, 1983	Publish "Information Systems" paper. Complete evaluation of utility of IS for local office use.
April, 1983	Publish "Job-matching strategies" paper. Complete analysis of job and person data.
May, 1983	Publish "Job and Person characteristics" paper.
June, 1983	Publish "Employer Concerns" paper.

9. Relevance of the Problem

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepare the client to seek and maintain employment is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabilitation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

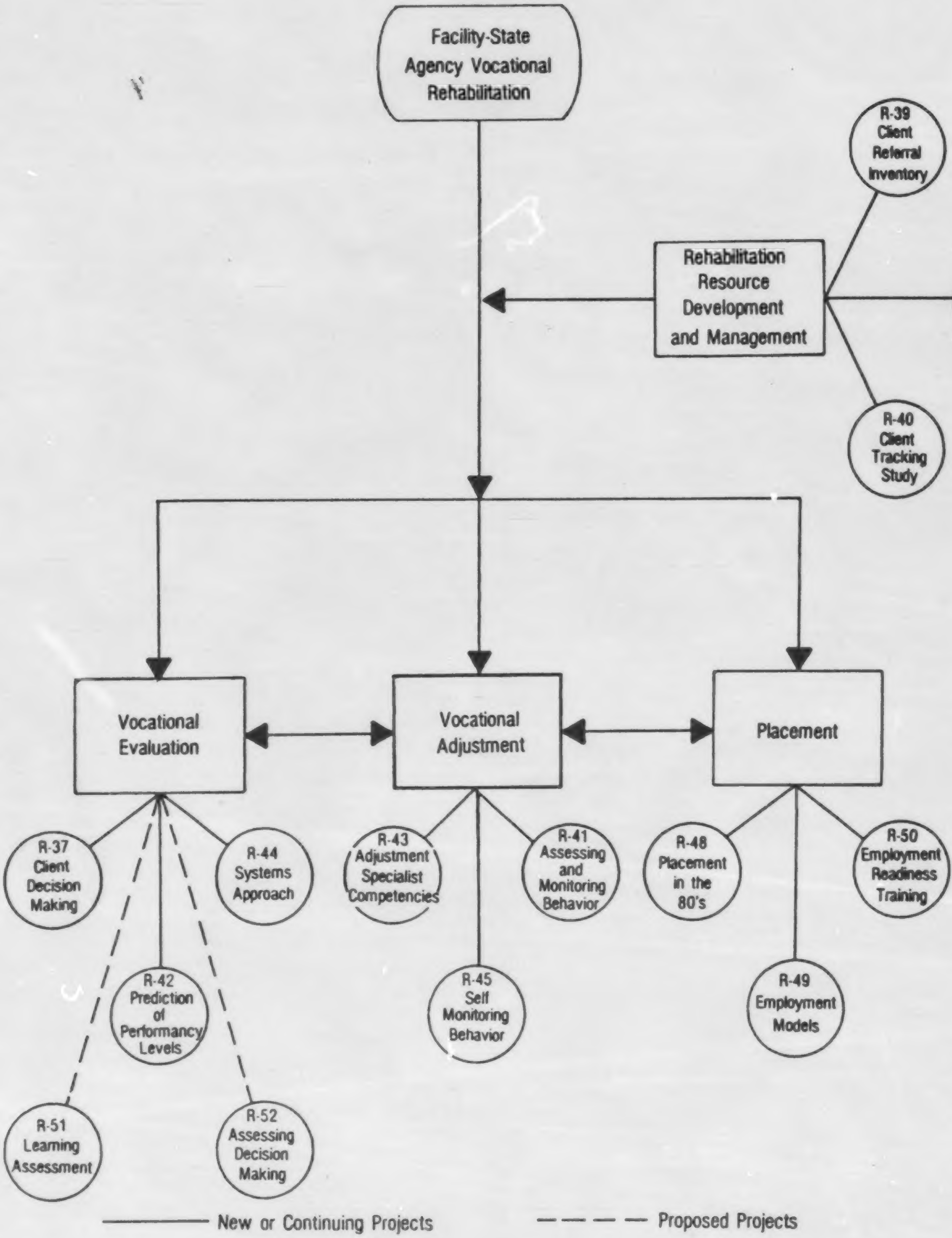

Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

From Figure 1, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, and R-50).

This project is one of three projects designed to initiate the Center's new line of research in Placement. Whereas the two other projects under this line are dealing with identification of basic Placement issues, needs, and development of research practices (R-48) and with methods for preparing rehabilitation clients for employment (R-50), this project initiates the search for empirically demonstrated models for accessing employment opportunities for handicapped individuals from the employer perspective. An important outcome of the development and demonstration activities under this project is a data base with which to conduct comparative studies of the effectiveness of different employment accessing models.

To Rehabiltiation

Accessing employment opportunities which are compatible with the needs, interests and abilities of persons with handicaps is the fundamental goal and problem for vocational rehabilitation. While many approaches are used to accomplish this with individuals, demonstrably sound models have not been provided. Simultaneously, alternative and traditional forms of productive employment are becoming available as technologies of different industries advance (as is the case in electronics) and economic and manpower demands of some of our basic industries fluctuate (as is the case in such core industries as steel).

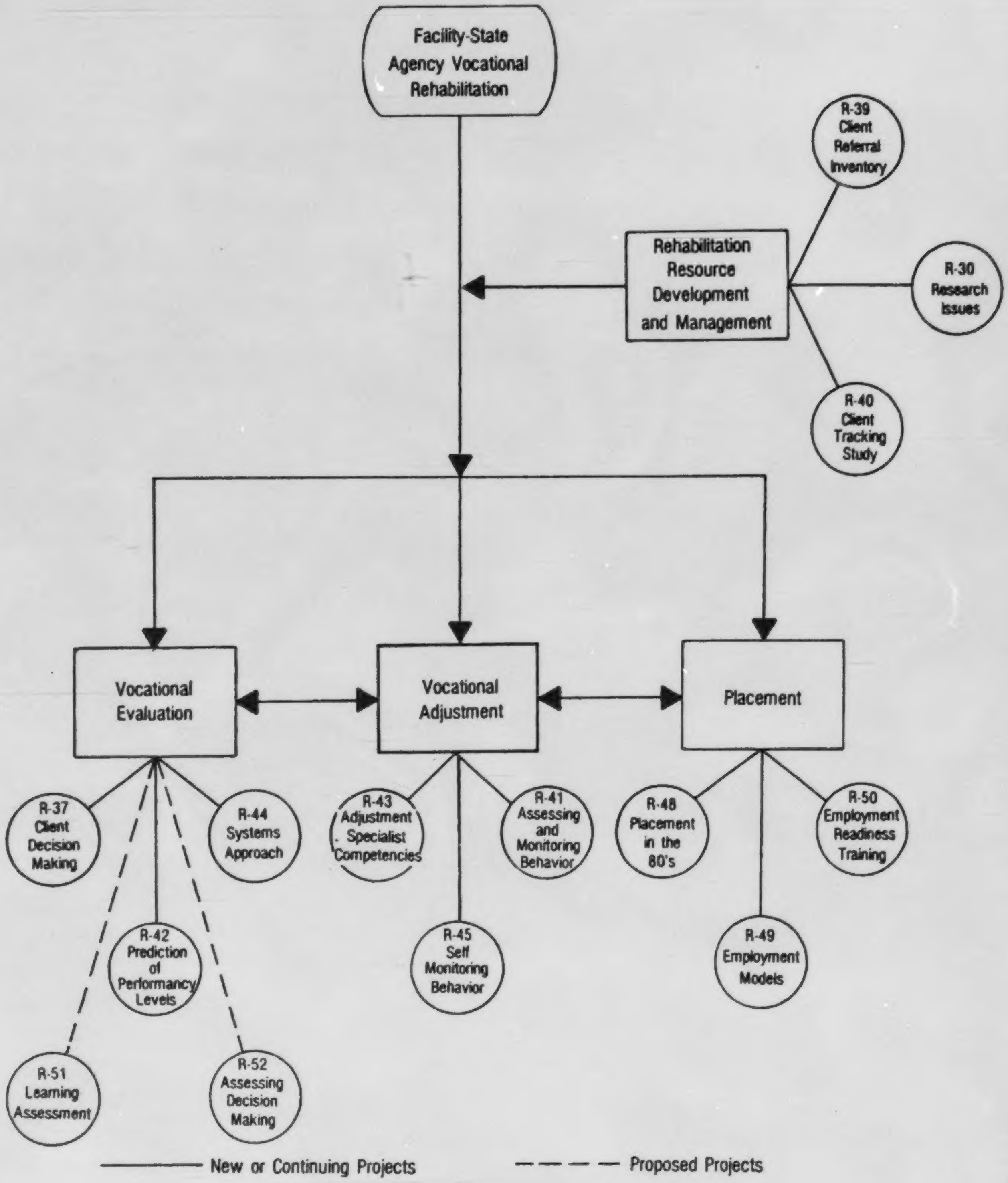
Though alternative employment opportunities will become more prominent, most employment options for most people will be traditional ones. Understanding how and how effectively employment is accessed by persons with handicaps in a key growth industry should help to document real models. Such models should then provide guidance to clients, practitioners and employers in other industries in how this accessibility might best be accomplished.

10. Client Characteristics

A primary objective of this project is to develop profiles of characteristics of persons with handicaps who apply for jobs in industry. No specific disability is to be focused upon. Rather, basic descriptions of people and the job they do or do not obtain in the industry are to be sought. Appropriate safeguards will be integrated into the information system so that the privacy of individuals and organizations will be secured.

11. Current Year's Activity

Since approval of this project in September, 1980, eight activities have been engaged in. The preparatory activities have been engaged in to insure rapid, full-scale initiation of the project upon hiring of staff, which is expected to be accomplished by March, 1981. They particularly focus on the projects first objective, Development of an IS for the EIF/PWI.


Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
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R-37 Client Decision Making
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R-45 Self Monitoring Behavior
R-49 Employment Models
R-51 Learning Assessment
R-52 Assessing Decision Making
New or Continuing Projects
Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

1. Assigning interim staff to establish the EIF/PWI relationship and initiate the planning and development of the IS.
2. Recruiting permanent computer and research personnel to assure responsibility for design of the IS and attainment of research objectives.
3. Site visit to the EIF/PWI national office to define the general expectations of the IS and clarify relationships.
4. Site visit to local office to establish relationships and identify local expectations of IS.
5. Review and analysis of the operation of the existing information processing methods at the national office.
6. Review and analysis of information resources at one local office.
7. Collation of information processing documents from all local offices.
8. Review and development of the project with the Center's Advisory Committee.

12. Dissemination of Findings

Dissemination of the findings of this project will be accomplished through four means: Research reports will document the structure and characteristics of the information system, detail the findings of studies of job and person characteristics and employment practices, and detail models of employment. RTC Connections will provide abstracts of those findings which have wide general utility for practitioners or client advocates. Results of the studies will also be directly integrated into existing and planned training sessions on Placement. Finally, summary journal articles will be submitted for publication where appropriate and as warranted.

Present dissemination plans anticipate the development of the following three research reports/RTC Connections:

1. An Information System for an Employer-based Employment Model: Its design, elements, use and effectiveness in management research.
2. Effectiveness of Selected Job-Matching Strategies in an Employer-based Employment Model.
3. Characteristics of Persons with Hnadicaps and the Jobs they Acquire in the Electronics Industry.

13. Utilization of Findings

This project is both product and process oriented. Findings from it can be expected to impact in particular ways which suggest a series of utilization strategies. The dissemination effort described above is one such utilization strategy. The tentative papers are first addressed to practitioners. Persons engaged in service delivery are provided essential information regarding employment practices in one major industry. The reports provide information on who is and how particular handicapped individuals obtain jobs, on the problem and issues faced by employers in hiring handicapped persons, and on how and how effectively an employer-based approach works. Using such information, the practitioner may then devise or alter the procedures they presently use with their client.

Direct utilization of the findings of the projects can be expected among those private and public rehabilitation agencies, clients, and employers directly involved in the EIF/PWI network. A major objective of the project is to develop an information system which feeds information back to national level and local level staff who directly affect program operations. A continuous evaluation and review program is, therefore, integrated into the entire network.

The third utilization strategy involves our dissemination of research to our secondary audience, researchers engaged in research on Placement, both at this and other centers. A major data base is to be established for the EIF/PWI employer-based model. In designing this system, data elements are to be incorporated into it so that comparative studies of alternative employment models can realistically take place. As staff at the Center go about the evaluation of other employment models, an important foundation for evaluation of the effectiveness of those models will have been established.

14. Policy, Program and Practice Changes

As demonstrably effective employment models are identified, major changes in the procedures by which employment opportunities are accessed in both public and private and traditional and nontraditional worksettings can be expected to take place in rehabilitation. Those changes, though, are long-term ones which are to be expected from the culmination of the Center's entire line of research on Placement.

The immediate effects of this project are more likely related to how the EIF/PWI network operates. In particular, one might expect that better coordination and articulation among the several local offices might occur at the national level. Clarification of the EIF/PWI processes, increased communication of possibilities and limitations, and increased efficiency in general management of the network should occur. Better direction as to where offices should be located and how they can best be managed may then come about.

Likewise, at the local office level, the immediate benefits should be in terms of efficiency and effectiveness. As a result of an evaluation of selected job matching strategies, more effective procedures could be introduced at each office. Greater numbers of clients and employers should thusly be able to be accommodated and more clients should obtain more benefits more quickly.

References

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Murdick, R.G., & Ross, J.E. Information System for Modern Management. Prentice Hall, Inc., Englewood Cliffs, N.J., 1975.

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RESEARCH PROJECT REPORT

Project No. R-50

1. Title Employment Readiness Training: In Search of a Model

2. Project Status (Check):

Proposed ___ New x Continuing ___ Completed ___ Discontinued ___

Transferred ___ Other ___

3. Beginning: 10/80 mo/yr Expected Completion: 6/82 mo/yr Completed: ___ mo/yr

4. Personnel: (Principal Investigator is Listed First)

Name of Personnel and Degree	Discipline	% of time on project*	
		80-81	81-82
James T. Herbert, MS	Vocational Rehabilitation	40	50
Vacancy	Research Specialist	5	20
Charles Coker, Ph.D.	Psychology	10	15
Fredrick E. Menz, Ph.D.	Measurement and Assessment	5	
Clerical		7	10

5. Financial Data:

Estimated Cost From Beginning to End of Project: 85,715

CATEGORIES	ANNUAL COST IN DOLLARS*							
	RT-Funds		Univ. Funds		Others		Total	
	80-81	81-82	80-81	81-82	80-81	81-82	80-81	81-82
Personnel Costs	16,976	27,546	2,298	2,925			19,274	30,471
Supplies and Other Expenses	4,020	4,083					4,020	4,083
Travel	1,515	1,805					1,515	1,805
Equipment								
Indirect Costs Allowed by DE	3,377	5,015	7,039	9,116			10,416	14,131
Total	25,888	38,449	9,337	12,041			35,225	50,490
Percent	73.5	76.2	26.5	23.8			100	100

*For report year and continuation year

6. Statement of the Problem

Purpose

One of the major outcome expectations of the rehabilitation system is the placement of handicapped individuals in a vocational setting which is consistent with their interests, abilities, and limitations. Various services concentrate on assessment, diagnosis, restoration of physical, mental, and vocational functioning, or skill training designed to enhance the individual's potential for someday entering the world of work. The process of actually placing the individual in a vocational setting appears to have secondary importance. Perhaps, this lack of attention results from the assumption that placement either occurs automatically or is a very routine and simple process if the individual has received the proper "rehabilitative" or therapeutic services.

To a certain extent, that was our assumption prior to initiating reviews of the placement process. That assumption is very naive. Placement marks a transition to a different phase of rehabilitation in which the service providers have different philosophies and skills and also have different expectations of what skills clients need to have and what activities are to be undertaken within the process of placement. (See project R-48, Placement Process in the 1980's, for a fuller explanation and development of the issues in the Placement process.)

Through our review, it was clear that one general skill area that clients in Placement require consists of the ability to search for jobs, select appropriate prospective employers, apply to those employers, successfully interview, and, once hired, possess certain basic behaviors which prevents them from being fired within the first few days or weeks. These skill areas are the subject of programs which we refer to as "Employment Readiness Training," though, in the literature, such programs may have other labels (Job Readiness Training, Job Seeking Skills, etc.).

Much of the literature reviewed stressed the importance of these skill areas, yet, there existed a paucity of research which indicated their effectiveness, and most importantly, the lack of a unifying model which would suggest what skills should be developed, what instructional methods should be used, and how should such programs be delivered and to whom. In spite of these critical deficiencies from an empirical research perspective, literally hundreds of Employment Readiness Training programs exist across the country. The purpose of this project is to initiate research for a unifying model of "Employment Readiness Training."

The project has three major emphases in attempting to suggest a model of Employment Readiness Training: (1) What client skills should be developed, (2) What client assessment must be undertaken to prescribe an individualized program, and (3) what is an effective and efficient service delivery system.

Introduction

In rehabilitation, it is generally recognized that although clients may have acquired training skills and demonstrate acceptable work habits and attitudes, it does not automatically result in obtaining employment. The distinction between a client's "employability" potential (their ability to meet the occupational requirements needed to do the job) and their "placeability" potential (their ability to fulfill the hiring requirements of a specific employer) is an important one. This distinction brings into focus the realization that the failure to obtain employment may not be a deficiency in employability skills, but in placeability skills.

The research would appear to indicate that providing training which assist individuals to seek and obtain employment decreases the time required to find employment (McClure, 1972; Keith, Engelkes and Winborn, 1977; Azrin, Flores and Kaplan, 1977; Azrin and Philip, 1979). These findings are based on data which demonstrate that individuals who receive training which prepares them for job placement generally find jobs more quickly. These programs are commonly referred to throughout the literature as employment readiness training, job seeking skill training, or job readiness training. Although it seems that the various programs which assist clients in obtaining employment are similar in some general content areas, they vary considerably in specific content, training methodology, and expected skill development. Thus, it is not clearly known which activities and the relative emphasis upon various activities which are responsible for the apparent reduction inthe time required to obtain work. In addition, few programs have acceptable research data to support their claim of effectiveness. Within these programs, it is also not known whether the techniques can be readily applied to each of the various target populations being served by the rehabilitation system. Finally, the delivery of employment readiness training on an individualized basis to all those in need of such services presents a serious problem. These problems necessitate the development of an approach which addresses the needs of clients seeking employment while making possible the effective and efficient delivery of a program to expedite the process of obtaining employment.

The efforts of this research project will be guided by three areas of concern. The primary concern involves determining whether a model program of employment readiness can be developed. The activities necessary to provide some resolution to this problem will require a review of existing approaches and the development of a classification scheme to categorize program content and activities. The second concern focuses upon assessment instruments and their applicability for prescribing specific skill-building needs consistent with the model being developed.

The third concern involves service delivery. A program specifically designed to meet the individual needs of the different handicapped persons seeking employment, while it may be effective, may not be efficient. The actual time contraints for both the rehabilitation professional and client must be considered. To be practical, therefore, this research must also be concerned with the applied aspects of service delivery.

Content of Employment Readiness Programs. The rehabilitation system provides not only services which assist handicapped individuals to achieve an optimal level of functioning, but also provides training related to seeking, obtaining, and maintaining employment. This training in assisting clients for placement is classified under the general rubric of "Employment Readiness Training." However, other terms such as Job Readiness Training, (Pruitt, 1977; Tesolowski, 1979), Job Seeking Skills (Bakeman, 1971; Hodgson, 1979), Job Placement Training (Keith, Engelkes, & Winborn, 1977) and Job Club (Azrin & Besalel, 1980) are frequently and interchangeably used throughout the literature. The final goal, no matter which term is used for the program, is that clients receive training to prepare them for obtaining and maintaining employment.

There are many variations in the procedures and techniques used to improve one's placeability. Typically, the training domains include aspects which one must consider in applying and interviewing for a job as well as what to expect once the job is obtained. Since this stage is the initial step in the placement process, one approach adopts the philosophy that once the client has acquired the necessary employability skills, they can independently place themselves without further assistance. These programs do not include an "active" placement effort with assistance from a counselor or professional. Other approaches include a very active process of seeking employment and assisting the client in obtaining employment (Anderson, 1968; McClure, 1974; Stude and Pauls, 1977; Keith, Engelkes & Winborn, 1977; Azrin, Flores & Kaplan, 1977; Azrin & Philip, 1979).

Once employed, clients may encounter difficulty in maintaining employment for a variety of reasons. Other employment readiness training programs encompass this aspect by providing activities to ensure the client is able to maintain employment. For example, the concept of a "Job Coach" has been suggested as a kind of professional that aids clients in the transition to competitive employment and increases the likelihood that the job will be maintained (Doane and Valente, 1977).

These programs have some degree of similarity in that they are designed to assist individuals in obtaining employment. Differences between programs, however, can also be rather large. Probably, the primary reason for such differences lies in target population being served as well as the differences in the abilities of each individual within the various target population. A second reason would appear to be a lack of agreement on what constitutes a comprehensive and effective approach. Thus, the preliminary step in building a model of Employment Readiness Training will be an examination of different approaches with regard to content, training techniques, populations served, and evidence of effectiveness.

Assessing Placeability. When an individual enters the Placement process, the initial concern prior to implementing any Employment Readiness Training should be an assessment of placeability skills. By conducting such an assessment, the client's strengths and weaknesses can be identified. Such a prescriptive instrument would identify the necessary training each individual needs to overcome deficient areas in employment readiness. However, it appears that few instruments have been developed (Swirsky and Vandergoot, 1980). There also seems to be little available information as to what strategies and/or instruments should be used to assess placeability potential. A procedure that seems typically applied is to have the client participate in a simulated job interview. Although this approach may provide insight as to problems within the scope of the job interview, it does not encompass other job seeking and preparing activities. Consequently, the trainer of employment readiness training is left with the dilemma of how to assess one's placeability potential. It should also be obvious that the content of such training and the issue of assessment are very much interrelated. The review of assessment instruments, therefore, is a necessary activity.

Service Delivery. Although the development of a comprehensive model utilizing an individualized approach to employment readiness training may be an effective method, it may not necessarily be efficient. The time required to teach skills which are applicable to some and not to others and which may be lengthy for some and relatively short for others would be considerable. It would seem on a practical level that resources to reduce the trainer's time, while still resulting in effective skill development of the client, would be valuable; for it would enable the trainer to devote attention to more specialized client placement related concerns. The resolution of this dilemma between effectiveness and efficiency may lie in computer-based education.

In recent years, computer-based education has been utililized to increase the availability of individualized instructional methods and materials. For example, Control Data Corporation (CDC) offers a computer-based educational course on Life and Career Planning. Components of the course include areas such as using sources of occupational information, job trends, career decision-making and planning, resume' writing and interview preparation. This program uses a PLATO teaching model approach by means of a "plate" terminal (which allows tactle interaction on a cathode-ray tube, as well as keyboard interaction) to access the specific instructional modules. Computer-based education in this approach consists of both computer assistant instruction and computer managed instruction. In computer assisted instruction, the course content is presented on the computer in an interactive mode. In computer managed instruction, a separate program is available which evaluates the trainee's performance on the material learned. Using computer assisted and computer managed instruction would provide a consistent and systematic approach of learned material. In addition, a model using this approach allows the client to proceed at their own learning capacity rather than one dictated by the trainer.

Significant promise is suggested for computer-based education approaches in certain portions of preparing handicapped individuals for employment, since such technology may efficiently augment vocational counseling and specific job seeking activities. Whether the content, instructional level, and technology of the "plate" terminal can be adjusted to the needs of the handicapped person is unknown.

Present Research. The present research is guided by the following three research questions regarding enhancing employment readiness training of handicapped individuals:

1. Can a model of employment readiness training be developed?
2. What kind of assessment within the model must be conducted to prescribe an individualized placement program?
3. What role would computer assisted instruction play in assessment of need and in the delivery of employment readiness training?

7. Objectives

The objectives of this research parallel the research questions and are to:

1. Develop a comprehensive model of employment readiness training.
2. Identify or possibly develop a prescriptive instrument which assesses an individual's training needs in employment readiness.
3. Evaluate the computer-based technology for identification of training needs and the delivery of training.

8. Methodology

The techniques utilized in the initial stages of the project do not require experimental designs, but relate more to the development of model curriculum, materials, and programs in employment readiness training. The project will have three phases paralleling the objectives. The phases are interrelated and will overlap in the development of a comprehensive model, development of a prescriptive instrument, and utilization of computer technology. The design is sequential and the success of the next phase is dependent upon the previous one.

Phase I. Model Development. In this phase, different approaches to employment readiness training will be identified by means of a survey of various programs offering such training. However, before any survey is conducted, the initial step will involve examining available approaches so that questions concerning content and program characteristics can be included in the survey. A schema for analyzing the various components of such training will be developed that will enable specifying important parameters of training. The survey will be constructed around these preliminary parameters of a model program. The survey results will be analyzed to determine the comprehensiveness of the model.

Following analysis, the approaches will be synthesized into a comprehensive model with various components. The third activity of the model will be an evaluation of the strengths and weaknesses of various approaches, need for development of other approaches and components, implications for assessment of client skills in these areas, and the applicability of computer-assisted instruction to each component or skill within the model.

Phase II. Placeability Instrument. The literature review will reveal whether a suitable placeability scale exists to adequately assess the various components of the model. The initial effort will be to identify a scale which adequately assesses the various components of the model. A specific approach cannot, at this time, be identified until the model development phase is more advanced. If one does not exist, such a scale will be developed within the scope of this project. If such development proves to be beyond the scope of this project, a separate project with more specific methodology would be developed.

Phase III. Computer Assisted Instruction. In this phase, the applicability in utilizing computer assisted instruction will be evaluated. After initial efforts of identifying competencies in the model and developing a placeability instrument are completed, an evaluation of how computer assisted instructional technology can be utilized in administering the prescriptive instrument and in the delivery of instructional components would be initiated. The final aspect of this phase will consist of exploring cost-effective marketing approaches before a final decision is made on how to implement computer assisted instruction. This analysis would include the specification of computer hardware given the identified software (program components) developed through this project.

The dissemination of materials will be made from each phase. The nature of materials and their development will be contingent upon the previous phase. It is anticipated that this research would culminate in an employment readiness model, a placeability instrument and a computer assisted instructional package.

Timelines

October, 1980	Initiate literature review and analysis of Employment Readiness Training. Develop schema for program content and operations.
March, 1981	Design survey of existing Employment Readiness Training programs.
April, 1981	Mail survey.
July, 1981	Complete analysis of literature and survey results on the readiness and report findings. Begin synthesis of comprehensive model.
September, 1981	Complete initial comprehensive model and begin identification of prescriptive assessemnt instruments and application of computer based education.
December, 1981	Complete monograph of model for internal and external review. Complete review of placement instruments and application of computer technology.
February, 1982	Complete review of project's progress with staff, University Research Screening Committee, and Regional Advisory Committee. Decide whether to terminate project and disseminate results, to continue project given specified methodology, or design one or more specific projects.
June, 1982	Complete dissemination activities of reports expected given present design.

9. Relevance of the Problem

To Center's Mission

The mission of this Research and Training Center focuses upon facility rehabilitation services provided within the context of the state-federal vocational rehabilitation system. These services encompass necessary diagnostic, restorative, and training functions which assist handicapped individuals to maximize their vocational development. In Vocational Evaluation, a wide variety of assessment techniques are utilized in determining clients' vocational potential for the purposes of eligibility determination, service planning, and development of the clients' vocational goals. In Vocational Adjustment services, various therapeutic techniques are utilized to enhance the clients' ability to adapt and cope personally, socially, and vocationally to the world of work and associated environmental settings. In Placement, another array of techniques which prepares the client to seek and maintain employeemnt is used to achieve the rehabilitation goal of maximizing the individual's vocational development.

The Center's core area of research within facility-state agency vocational rehabilitation is more specifically defined by three lines of programmatic research which parallel these service entities; Vocational Evaluation, Vocational Adjustment, and Placement. In addition, the interrelationships among these lines of programmatic research are ensured through a line of research in Rehabiliation Resource Development and Management. This line of programmatic research includes the development of data bases for assessing the impact of service combinations on client outcome and provides baseline information for determining effects of changes in program delivery. This line also provides for the coordination of research, development of research resources, and enhancement of dissemination and utilization activities.

From Figure 1, it can be seen that the research of three projects (R-30, R-39, and R-40) impact on Rehabilitation Resource Development and Management. Five projects deal primarily with Vocational Evaluation (R-37, R-42, R-44, (P)R-51, and (P)R-52). Three projects address specific concerns within Vocational Adjustment (R-41, R-43, and R-45), and three projects have been initiated in the area of Placement and Employment (R-48, R-49, and R-50).

This project has a direct impact on the programmatic core of research in Placement. Employment readiness training is generally recognized as the initial step in the Placement process within rehabilitation. It is intended to bridge the transition between the rehabilitation world to that of employment in the private and public sectors. However, many varied approaches in preparing handicapped individuals for this transition have been developed, each with varying effectiveness. Consequently, an attempt to synthesize existing knowledge on employment readiness training for the purpose of developing a model program, to our knowledge, has not been attempted. In addition, a critical concern that is often expressed by Placement Specialists in rehabilitation is the problem of how to assess the various aspects which indicate potential for successful placement. Finally, recent developments in computer-based technology have demonstrated applicability in several areas of placement related activities with handicapped individuals. Each area previously mentioned will be an aspect of the current research project. It is intended that research efforts would result in progress toward the development of an employment readiness training model, development of a prescriptive placeability instrument and utilization of computer-based technology for identifying training needs and delivery of training services.

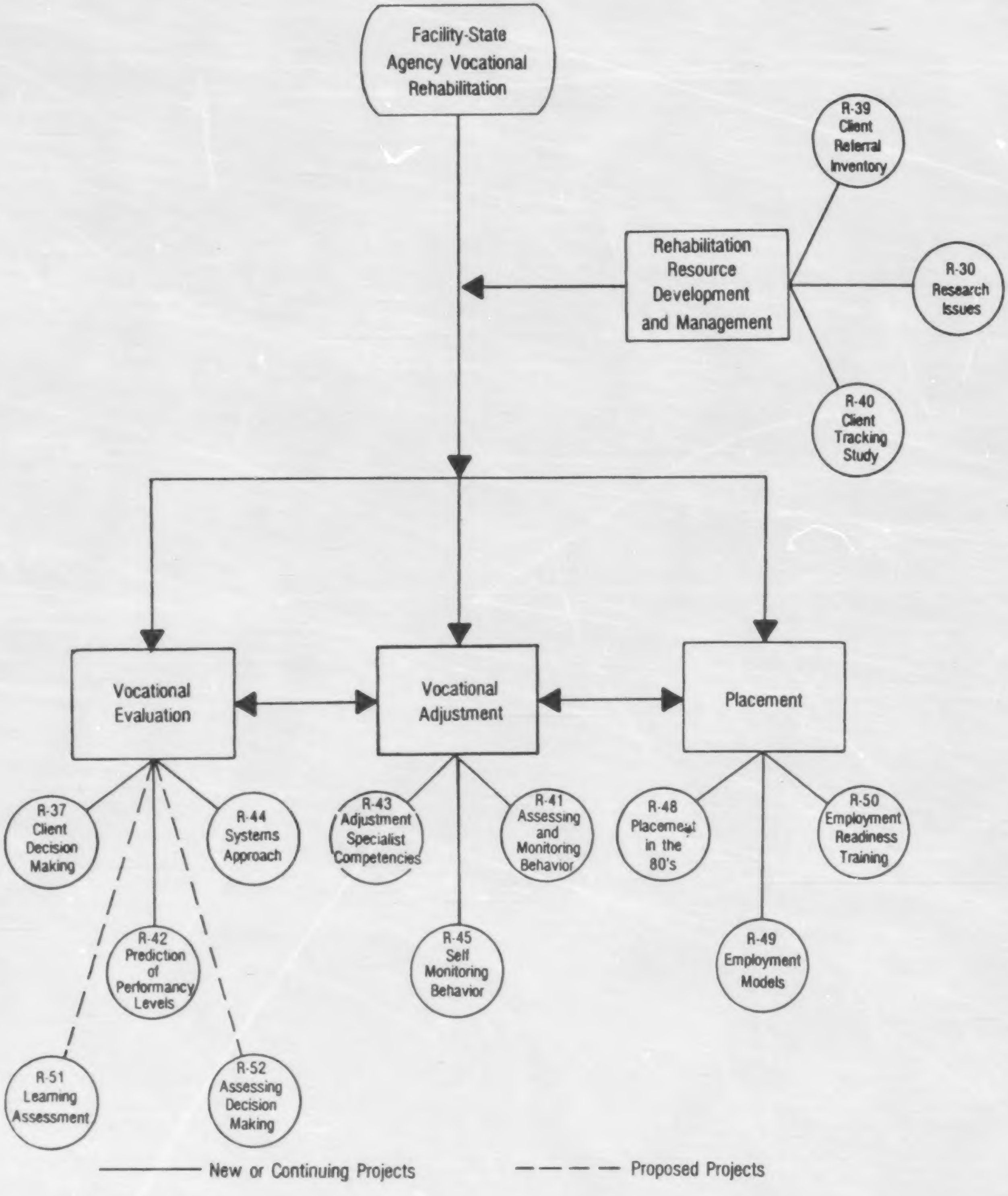
Facility-State Agency Vocational Rehabilitation
Rehabilitation Resource Development and Management
R-39 Client Referral Inventory
R-30 Research Issues
R-40 Client Tracking Study
Vocational Evaluation
Vocational Adjustment
Placement
R-37 Client Decision Making
R-44 Systems Approach
R-42 Prediction of Performancy Levels
R-51 Learning Assessment
R-52 Assessing Decision Making
R-43 Adjustment Specialist Competencies
R-41 Assessing and Monitoring Behavior
R-45 Self Monitoring Behavior
R-48 Placement in the 80's
R-50 Employment Readiness Training
R-49 Employment Models
New or Continuing Projects
Proposed Projects

FIGURE 1: THE RELATIONSHIP OF NEW, CONTINUING, AND PROPOSED RESEARCH PROJECTS TO RT-22'S CORE AREA AND LINES OF PROGRAMMATIC RESEARCH

To Rehabilitation Field

Employment readiness training is a program that is offered in many rehabilitation facilities. This process, which involves the various aspects one must consider when applying for work, is a necessary component in the Placement process. Although such a program is generally recognized as valuable, an attempt to examine the characteristics of various employment readiness training models to develop a comprehensive model seems neglected. This project would result in a comprehensive model of competencies necessary for placement, a prescriptive device for determining individual needs, and utilize computer technology to assist in the delivery of such training. These activities are designed to enhance the effectiveness and efficiency of employment readiness training in the Placement process.

10. Client Characteristics

Clients are not expected to be involved in the project as presently designed.

11. Current Year's Activities

The major emphasis involved reviewing ten existing employment readiness training approaches and other research materials. It is anticipated that additional approaches may be reviewed as a result of the survey of employment readiness training programs. The initial review examined the following programs:

1. Life and Career Planning (Control Data, 1979).
2. Job Seeking Skills (Hodgson, 1979).
3. Finding Your Best Job (Krusmark and Leske, 1977).
4. Career Orientation (Texas Rehabilitation Commission, 1973).
5. Employability Skills Project (Dunham, 1978).
6. Job Seeking Skills (Minneapolis Rehabilitation Center, 1971).
7. Job Seeking Keys and Career Development (Keith, 1980).
8. Job Club (Azrin and Besalel, 1980).
9. Modular Placement Training Program (Human Resources Center, 1977).
10. Job Readiness Training (Tesolowski, 1979).

Five general areas of program content have tentatively been identified:

1. Job Selection.
2. Written Communications in the Job Interview.
3. Job Interview Preparation.
4. Job Interview Behavior.
5. Job Keeping Behavior.

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In addition, characteristics of the approaches were analyzed in terms of

1. Program operations
2. Methods of instruction and learning

Job Selection

This area found in employment readiness training is concerned with the client's vocational development. Development is conceived as an on-going process which the client must be aware of to reach vocational potential. The focus would appear to adopt the perspective that the job is not an end product but rather a stepping stone to reach the final vocational objective. Three factors were identified within the job selection area: job exploration, understanding of self, and career planning. Specific activities within each factor are outlined in Table 1. By reviewing Table 1, it can be seen that most programs encompass the process of job selection in which possible jobs that clients express interest in are identified, where sources of occupational information in pursuing their interests can be obtained, and other related activities.

Certainly, before any decision is made to pursue a particular job/career, an understanding of self seems necessary. In employment readiness training, this is usually accomplished by having a review of personal assets, limitations and interests. As outlined in Table 1, it can be seen that most of the programs reviewed attempt to identify personal strengths and interests with less emphasis placed on identifying one's liabilities. Finally, an important aspect, especially with respect to understanding of self would appear to be identifying the client's work values to formulate a vocational objective.

The strategies needed to make career decisions, however, are found less often. Identifying short-range and long-range goals would seem to be an important step in this direction.

Written Communications in the Job Interview

The programs also recognized the importance of written activities required in job seeking. The areas included in employment readiness training that necessitate written correspondence are outlined in Table 2. Most notably, the emphasis is in two areas: resume' writing and completing application forms. The variations in types of resumes and applications often depend upon the job sought. Procedures and suggestions for constructing a resume' and completing application forms are often a part of the activities. The differences among the programs are the extent of information detailed and the population it was intended to instruct. For example, several programs detail what is needed in constructing a "professional" resume'. In other programs, clientele are not likely to need this type of resume' but require a more basic approach. These differences result in various approaches and possible contradictions on how to write a resume'. This observation is further substantiated by Field and Holley (1976) who noted that contradictory advice has been offered to job seekers in preparing a resume'. The same criticism can also be made with guidelines that are suggested when completing application forms. For example, a client who is divorced has several possibilities when checking the statuses

Table 1

Job Selection

FACTORS	Contained in % of Programs
Job Exploration	
a. Identify jobs clients want to do	70
b. Locate sources of occupation information information	60
c. Develop decision-making techniques in job selection	40
d. Assess relevant characteristics of labor market	30
e. Evaluate potential of job possibility	20
f. Identify occupational categories by function	20
g. Identify sources to assess vocational interests	10
Understanding Self	
a. Personal assets/accomplishments	70
b. Interests	50
c. Work values	50
d. Personal liabilities/handicaps	30
Career Planning	
a. Identifying short/long-range goals	30
b. Negotiating a career	10
c. Planning a personal career path	10
d. Balancing work and leisure - a model	10

on the application form. One program contends to check divorced, since this is the individual's actual status. Another program suggests to indicate being single, because of the negative connotations society associates with divorce. A catch-all adopted by most programs concerning this issue or any other dilemmas seems to be, "when in doubt, indicate will discuss in the interview." Perhaps the major reason to account for discrepancies is the lack of research in determining the implications of an applicant's disclosure of information on employer hiring practices. When reviewing employment readiness training programs, the guidelines offered certainly seem pragmatic, but are not often supported by empirical research.

Table 2

Types of Written Sources Related to the Job Interview

FACTORS	Contained in % of Programs
Resume' writing	90
Application forms	90
Writing a cover letter	50
Writing letters of acceptance rejection, follow-up	30
Hints on taking employment tests	30
Obtaining letters of recommendation	10

Job Interview Preparation

This area involves the initial steps before a client actually applies for the job. From Table 3, the various programs suggest that time should be devoted to examining general areas and activities as well as specific suggestions when preparing for the job interview. The client is not likely to succeed in the job interview, unless adequatley prepared. The steps needed to prepare oneself for the job interview as described in the program first requires a thorough review of one's background. The result of conducting a review will provide the client with supportive evidence as to their abilities to do the job. The review for most employment readiness programs is in areas of education and work. Clients are asked what jobs were liked and disliked, reasons why, tasks performed, training or special skills required, etc. Additional areas including reviewing military background, community involvement and personal finances are explored in some programs as other sources which need consideration. It would seem that all possible areas that provide supportive evidence of one's abilities need to be considered.

Table 3

Job Interview Preparation

FACTORS	Contained in % of Programs
General	
A. Job leads	90
B. How to telephone for an appointment	80
C. Educational Background	70
D. Work history	70
E. Financial needs	30
F. Community and professional involvement	20
Specific	
A. Take all necessary forms/ information to the interview	60
B. Develop a written list of questions	50
C. Leave early to arrive 10-15 minutes before interview	50
D. Become aware of company services and/or products	40

Most programs also concentrate, at the same time, on the problem of where to apply. Job leads or sources to find employment are identified as being in the "hidden" or "open" job market. Sources in the hidden market are those not publicized but, for example, are obtained through contact of friends, relatives, former employers, community leaders, etc. Although it would seem that providing training in this area is unnecessary, research evidence and observations in the field indicate this is a formidable task for many clients (Sheppard and Belitsky, 1968; McClure, 1972; Reid, 1972; Keith, Engelkes and Winborn, 1977; Zadny and James, 1978; Solomone and Rubin, 1979; Azrin and Philip, 1979). Training in securing job leads and telephoning for an appointment is highly stressed in the programs reviewed as evidenced in Table 3.

Besides these general concerns, activities are suggested prior to a specific interview, such as having the necessary forms, developing written questions, and leaving early. Also, it appears that the client is not fully prepared for the interview unless something is known about the type of company or agency with which the client is seeking employment. For example, the job interview process in a state agency may be quite different than a small private company even though the job description is similar.

Job Interview Behavior

The dimensions of teaching job interview behavior as practiced in the employment readiness training programs that were reviewed are generally written in the form of guidelines. In Table 5, these guidelines are divided into four factors: (1) pre-interview suggestions; (2) general interview suggestions; (3) handling barriers to employment; and (4) post-interview suggestions. Some programs offer a list of commonly agreed "do's" and don'ts." By what means and on what basis they are to be applied are not clear. On the surface, the suggestions seem appropriate, however, the rationale for suggesting them outside of a pragmatic rationale are not mentioned in the training manuals. It was noted that a few programs would indicate "research has shown..." but did not provide accompanying evidence or references. It is important that a model of employment readiness training must provide supporting evidence when suggesting appropriate job interview behaviors.

The major focus was on teaching specific job interview behaviors which involved the listing of appropriate behaviors in which the client should be capable of demonstrating competency. The first two pre-interview and interview factors dealt with behaviors which should enhance clients' ability to make a satisfactory presentation of themselves to a prospective employer.

The third factor deals with a particular problem especially encountered by handicapped individuals: barriers to employment which need to be explained during the interview. The breadth of barriers covered were not equal across the programs reviewed as indicated in Table 5. Although many programs attempt to assist the client in answering problem or general questions, the population for which the program was intended will dictate the nature of the assistance. Only one post-interview suggestion was found, that of calling the employer after the interview. apparently, the tactic is to impress the employer with the applicant's high level of interest in the job.

Job Keeping Behavior

Employment readiness training, besides preparing clients for the job interview, also requires, to some extent, preparing clients to maintain the job. Simply providing the client with the skills to improve their placeability potential would seem insufficient unless the client demonsrtates job keeping behaviors. Even though this would seem obvious, this emphasis is not shared with the employment readiness programs that were reviewed. In Table 6, it is evident that specific job keeping behaviors are not stressed in the majority of programs reviewed. Factors of job keeping behavior were not developed, since so few programs emphasized this area. Rather, the specific activities are listed and provide some insight into the possible skills that might be appropriate to a model program.

The activities include providing clients with information as to what behaviors should be exhibited, ways to identify potential problems, and possible solutions to those problems.

Table 5

Job Interview Behavior

FACTORS	Contained in % of Programs
Pre-Interview Suggestions	
A. Dress appearance (what to wear)	80
B. Initial greeting	70
C. Grooming	50
D. Behavior to exhibit while waiting for interview	20
General Interview Suggestions	
A. Avoid excessive verbalization	80
B. Enthusiastic; express interest for job	70
C. Make clear and convincing statements about abilities	70
D. Body posture/non-verbal cues	60
E. Responding to hypothetical job problems	40
F. Clarify anything interviewer doesn't understand	30
Handling Barriers to Employment	
A. Problem/general questions	80
B. Physical health	60
C. Incarceration	40
D. Age (old, young)	40
E. Transportation	40
F. Chemical/alcohol dependency	30
G. Not a citizen	30
H. Divorce/separation	30
I. Public assistance/ worker's compensation	20
J. Gaps in work history	20
K. Gender	20
L. Family	20
M. Lack of work experience	10
N. Overqualified	10
O. Race	10
Post Interview Suggestion	
A. Use a call back procedure	60

Emphasis appears to be on educating the individual to expectations of the employer. Clients are also taught how to handle both the negative and the positive consequences of work performance that could result in termination of employment or promotion.

Table 6

Job Keeping Behaviors

ACTIVITIES	Contained in % of Programs
General guidelines for maintaining a job	40
Developing employer/employee relationships	40
Getting along with co-workers	30
Being familiar with company policies/procedures	30
Understanding employer's needs	20
Ways of using initiative to keep job	20
How to improve job performance	20
Safety on the job	20
Using telephone effectively	20
Absenteeism/Tardiness	20
Resigning from a job	20
Personal problems that affect work	10
Physical/emotional feeling as warning signs	10
Asking for a promotion	10
Accepting a job dismissal	10
Budgeting money	10
Maintaining good health	10
What to wear to work	10

Program Operations

This category refers to the actual procedures and characteristics which identify and describe how the programs are conducted. Twenty-one separate program characteristics were identified and are listed in Table 6. Reviewing these characteristics can provide insight as to the philosophy and comprehensiveness of employment readiness programs. It appears that basic operations such as developing a trainer's manual, conducting an orientation, and defining the population and number of clients for which the program was designed are typically conducted in most programs. However, the program operations which include developing a client manual and measures to assess material learned were not as frequent. It is also important to note that participating in optional activities, depending upon the clients needs, are existent in only half of the programs reviewed. This would appear to indicate the tendency to apply all training activities to all clients in the same manner regardless of the individuals' needs. Also, note that the last four program operations were found in only one approach. Yet, those specific activities are part of a program which has had the most research conducted on its effectiveness. Clearly, there is need for further development and research on the effect of program oeprations upon Employment Readiness Training.

Methods of Instruction and Learning

The several methods which the programs rely on to instruct clients are listed in Table 7. These methods vary from the traditional lectures and group discussion to role play and skits in which clients develop skills. Although the type of instruction may depend upon the population for which the program is intended, research by Jackson (1972); Barbee and Keil (1973a, b); Harris and Vernardos (1973); and Way and Lipton (1973) has demonstrated the effectiveness of using videotape and role-playing as techniques used in Employment Readiness programs. Clearly, a need exists to explore alternative methods for instruction and learning in Employment Readiness Training programs.

Conclusion

It becomes obvious, even after this limited review of Employment Readiness programs that this concept is difficult to define operationally. The dimensions of Employment Readiness involve many components, yet there exists little agreement as to exactly what components and techniques should be used as well as how to assess their effectiveness. One example is the fact that job-keeping behaviors were found in less than half of the programs. Despite the diversity, there appears to be mutual agreement that such training is desirable and needed by all clients who are expected to enter competitive employment. Further research in developing a model of Employment Readiness Training will concentrate on the following activities:

1. Survey other programs according to dimensions found in this preliminary analysis.

2. Evaluate experimental studies on the effectiveness of various techniques and their impact on obtaining employment.

Table 6

Program Operations

OPERATIONS	Contained in % of Programs
Developing trainer's manual	100
Conducting orientation	90
Defining population for which program was intended	90
Identifying optimal number of clients to participate at one time	90
Identifying length of program	70
Developing client manual	60
Developing measures to assess material learned	60
Participating in optional activities depending on individual client needs	50
Establishing criteria/guidelines for admission	30
Filling out intake referral form	30
Listing of resource materials	30
Providing options to teach same material with different modalities	30
Providing needed supplies to assist in job search and interview	30
Identifying characteristics the instructor should possess	20
Providing follow-up on clients after job interviews	20
Listing of words with definitions that are associated with job interview process	10
Clients critique course	10
Specifying client obligations	10
Pairing of clients (Buddy System)	10
Re-enrollment of former clients if job is lost	10
Sending introduction letter to client informing about program	10

Table 7

Method of Instruction and Learning

METHOD	Contained in % of Programs
Lectures	90
Group discussion	80
Role play	70
Slide/tape	60
Videotape	50
Audiotape	50
Guest speakers	50
Films	30
Programmed learning	30
Self-study	10
Skits	10

3. Explore impact employment readiness may have on the client on maintaining employment.

4. Conduct additional analysis of this information to determine what skills clients should have when seeking employment.

These initial research activities are part of Objective(1) on development of a model of employment readiness training under the new core of programmatic research in Placement. Additional activities will relate to Objectives (2) and (3): Assessing placeability and the role of computer based education.

12. Dissemination of Findings

The findings in this initial phase will be used in developing a model of employment readiness training. They will serve as a basis as to whether a prescriptive instrument to identify an individual's training needs can be developed and later applied using computer based technology. Once these phases are completed, findings will be disseminated in specific Research and Training Center reports. Brief reports will be prepared for the Center's

Interface series as appropriate and the *RTC Connection*. Formal dissemination activities will be presented to professional groups as part of the Center's training activities on Placement.

13. Utilization of Findings

This project is designed to identify components, methods, and techniques used in employment readiness training programs. These findings will be instrumental in developing a model for employment readiness training. Once developed, a prescriptive instrument in assessing one's training needs and using computer-based technology will be included in the final model of employment readiness training. The findings are expected to have utility for service providers, researchers, educators, and guide further research by the Center in this area.

14. Policy, Program, and Practice Changes

This project will have its greatest impact on employment readiness training as it is practiced within the placement process. With the development of a model, other existing employment readiness training programs may wish to incorporate components into their programs. Consequently, developing a model is expected to have impact on several policy, program, and practice considerations in the delivery of services to handicapped individuals seeking employment.

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2

TRAINING

TRAINING

Training provides an excellent opportunity for RTC staff to support and upgrade the quality of many of the vocational rehabilitation services being provided for handicapped people. In short-term training abstract ideas are made more concrete for field workers. Most training to date has been for vocational rehabilitation facility staff workers. More recently training sessions have included professional workers in related fields who are learning how to adapt special vocational rehabilitation concepts and techniques to the needs of younger and more severely disabled people. These people have come from special education, vocational rehabilitation counseling, and occupational therapy. Continuing education efforts with new groups will be expanded and every attempt will be made to keep them current with field licensing, certification and/or accreditation requirements. RTC staff is also actively involved in the setting and advancing of these field related standards.

Training Goals, Objectives, and Focus

The primary mission of the training section is to disseminate new knowledge to practitioners, educators, and researchers in the field. The training program is the primary vehicle for dissemination of this information and for its effective utilization. Content focus is on vocational evaluation, work adjustment, placement, and interfacing areas.

Training Objectives of RTC #22 are as follows:

1. Disseminate and effectively utilize new information in the field of vocational evaluation, work adjustment and related areas.
2. Familiarize pre-service university students with field related research.
3. Provide graduate students education and information in research, research techniques and research information.
4. Improve the teaching of and educational methods used in rehabilitation services.
5. Provide closer coordination of RT-22 efforts with other rehabilitation and rehabilitation related training and research organizations in the United States and around the world.
6. Encourage the development of interdisciplinary efforts and teamwork in training, research, rehabilitation, education and related health and welfare.

7. Familiarize consumers, professionals and concerned laypersons with resources and information in research and training services and other areas of rehabilitation.
8. Develop training materials for use by educators, trainers and service providers.
9. Solicit feedback on training materials to facilitate the development of new materials and modifications of present materials.
10. Train trainers to conduct field training and assist practitioners and program staff in developing and presenting in-service training programs.

In order to achieve these objectives most effectively, the resources of the Research and Training Center have been integrated with those of campus groups at the University of Wisconsin-Stout. Our mission and objectives are closest to those of the helping professions section of the University and we are a part of that University mission area. Cooperative efforts and consultations on campus have also included industry, teacher education and departments of technology and home economics.

Training Efforts

Training efforts involve preservice, in-service and problem-solving training with an increasing emphasis on training materials development. Where possible, training programs are conducted in cooperation with local, state or regional facilities or agencies.

Preservice Training

Preservice emphasis includes teaching in undergraduate and graduate classes, presenting special programs and involvement with interns, student research and student teaching. These activities are beneficial to students and staff and they are related to goals and objectives of the Center.

In-Service Training

In-service training is the strong emphasis of the training staff at RT-22. Two-week workshops for new and entry level practitioners (evaluation and adjustment specialists) have been the primary emphasis in in-service training. Last year 4 of these workshops were held off-campus and there were 108 participants involved.

The need for this type of training is evidenced in national studies which describe the rapid growth in rehabilitation facilities and client caseloads (Greenleigh 1976, USDOL 1979). The Greenleigh Study (1975, p. 14) indicated a 300% increase in number of certified workshops in this country since 1966 with client daily caseloads increasing from 50,000 to approximately 116,000 in that same decade. Roughly 410,000 clients are served annually, workshops are utilized at only 75% of capacity and the study "clearly offers evidence of the need for more and better trained facility professionals." The USDOL Study (1979, p. 26) indicated a 251% increase in numbers of clients in certified (sheltered) workshops since 1968, with the greatest growth (474%) occurring in work activities centers. "Clients in training and/or evaluation programs showed a gain of 171%..."

Problem Solving

Problem-solving efforts by the training staff include technical consultancies in facilities and special training workshops to meet special needs of practitioners. Illustrations of the special workshops are the Similar Benefits project (T-150), the planned projects for teachers (T-153), and the Advanced Vocational Evaluation workshop.

Training Materials Development

New information from research needs to be integrated with other training materials. Sometimes this information is entered into revisions of present training materials or a new publication or monograph is put together. Emphasis at the moment is on developing training modules to be used in training by Center staff or adjunct faculty.

Accountability

Evaluation of training is talked about more and more and accountability is being sought by consumers, funding groups and management groups. It is important in evaluation to keep in mind factors such as validity, reliability, measurement error, cost effectiveness and time. It is most important, however, for us as trainers to know candidly how well we are doing.

Evaluation of training can look at several levels. These levels include student feelings, immediate learning, implementation and long-term positive change in the home organization of the trainee. Trainees are asked to respond regularly to how well they liked content and presentation (feelings). Immediate learning is measured by pre and post testing of students (immediate learnings). At the end of a training session, students are asked to write a 3 party performance contract about utilization of new learning. This contract involves the student, their supervisor and RT-22 (implementation).

One of the most useful approaches to evaluation is done almost "immediately" by the instructor as training progresses. Mind stretching kinds of questions are used all through training units and these will give important feedback to an instructor as training progresses. Mind stretching kinds of questions are used all through training units and these will give important feedback to an instructor concerining "how we are doing right now," and "what should we be doing in the next five minutes." Knowledge and skill level change measurement is being reviewed for content relevance, and scoring for longer workshops will be handled by computers. In addition, training participants are being asked each day to evaluate training units and presenters.

Training activities of RT-22 have two strong emphases. One is the appropriate dissemination and utilization of research findings while the other emphasis is training entry level and more experienced field practitioners in new or more effective approaches to vocational evaluation and/or worker adjustment.

The first emphasis is intended to bring new ideas into practice as soon as possible. This dissemination involves close cooperation with researchers in RT-22. Trainers also seek out and attempt to integrate a broad range of research products from other RTC's, from other rehabilitation research educational and service units and from related fields of research, service and education.

The emphasis on training entry level practitioners occurs because there is a dearth of trained professional personnel in both vocational evaluation and work adjustment (Greenleigh 1976 and USDOL 1978). Preservice training programs are unable to meet the demands of the field. For this reason the demands still hold for in-service training and speciality training workshops. RT-22 training continues to emphasis this kind of training.

Cooperative training efforts have increased the past year. Adjunct faculty have been enlisted from Stout, from other universities and from other training organizations as well as from our own research staff. Joint teaching efforts have included practitioners in the field and staff from Auburn University, the University of Arizona and the Detroit public schools. These cooperative efforts provide broadened support of the field of vocational evaluation and they are an excellent source for the development of competent adjunct faculty. Ideas from different organizations are exchanged and new knowledge can thereby be more widely and effectively disseminated. Strengthening of and expansion of these efforts are planned in the future. The National (RTC) Task Force on training has brought all Centers closer together and will most likely provide a springboard for further cooperative efforts in training.

Training objectives, outlines, and resources have in the past year been updated for all the training curriculum units in vocational evaluation. Efforts are now being focused on updating the materials in work adjustment and placement (see training curriculum section). The base for these units has been broad, however, much has been adapted from RT-22 research literature reviews, findings and recommendations. Field testing of completed units is now in process and will allow training staff to improve them. In the future they will be assembled, bound and made available to other trainers.

Certification of vocational evaluators and work adjustment specialists is still a major concern in the vocational rehablitation field. RT-22 training and research staff feel this concern and as a result staff are heavily involved in the process.

Graduate students and graduate assistants are functioning with training staff. This effort is valuable for the students as they learn more about research and training. During the past year graduate students' assisted efforts involved work sample development, rehabilitation engineering, projects within industry, workman's compensation, grant writing and planning for further graduate training. These students, under close supervision, have been able to produce helpful training materials. These students may be partially funded and in the future students will be invited to participate in some of the following areas: adapting and comparing various analytical, synthesizing, and/or problem solving techniques for use in vocational evaluation, work adjustment, facility operation and/or placement; adapting concepts and techniques from related field for use in vocational evaluation and work adjustment; teamwork in vocational rehabilitation; use of self-monitoring in vocational evaluation and work adjustment; interfacing vocational evaluation and/or work adjustment with education and/or the world of work; certification and/or licensing of practitioners and/or programs; developing and administering grants and other special funding sources; critical issues in vocational evaluation, work adjustment and/or placement; recruiting high caliber students for training and functioning in vocational rehabilitation facilities; increasing the stature of vocational evaluation and/or work adjustment; forensic vocational evaluation; effective consulting with vocational rehabilitation facility programs; placement process; employment models; behavior change techniques; process and outcomes of vocational evaluation/adjustment; diagnostic interviewing; special uses of D.O.T. in vocational evaluation; advanced training for professional growth and development of vocational evaluation and/or work adjustment practitioners; solving selected ethical problems in vocational evaluation and work adjustment; facility operation; critical issues in vocational evaluation; work adjustment and or placement; rehabilitation engineering issues, use of occupational information; use of audiovisual techniques in evaluation and adjustment services; developing training materials (curriculum, training media, etc.) in vocational evaluation, adjustment services, placement, counseling; evaluator decision-making; client decision-making in vocational evaluation and/or work adjustment; special uses of tests in vocational evaluation and/or work adjustment; interfacing vocational evaluation and/or work adjustment with education and/or the world of work; and adapting or utilizing learning assessment principles or techniques in vocational evaluation.

Professional Consultations

Another kind of "training" is the consultation provided by training staff to practitioners in the field. Hundreds of people, letters and telephone calls come into the Center and are handled by training staff as consultants. Direct consultation also occurs at training and professional meetings where practitioners on an individual basis regularly present to trainers program related problems. These problems or situations are usually worked through on the spot or handled later by telephone or return mail. An estimate of these special consultations by training staff is provided below.

Consultation Topics	Est. # of Contacts	Some Relevant Outcomes	Total Time Est. for Contacts
Certification by Practitioners	16	Improved techniques by certifying and better understanding of the rationale and process	80 Hours
Selecting Appropriate Work Sample System(s)	15	Clearer understanding of process for selecting systems	15 Hours
Developing Legislation for Certification and Licensing	2	Helped advance process	32 Hours
Developing Programs for Aged, Homebound, Handicapped People	6	Helped capture new funding services from commission for aging and local bank	9 Hours
Planning Manpower Study	4	Helped develop manpower study	30 Hours
Planning Professional Meetings	12	Helped develop goals, objectives and training activities	60 Hours
Planning Training for Facility Specialists	3	Project developed (Not funded yet)	60 Hours
Planning Training for Rehabilitation Inter-Professional Workers	2	Project developed (Not funded yet)	20 Hours
Planning Conference Program for Counselor	2	Conference occured	2 Hours

Consultation Topics	Est. # of Contacts	Some Relevant Outcomes	Total Time Est. for Contacts
Explaining Coop. with Other Training Agencies	6	Improved understanding	50 Hours
Conferring Regarding Adjunct Faculty	25	More people available as adjunct faculty	1 Hour
Hiring of Training Staff	1	Information given	20 Hours
Studying Training Needs in Facilities	2	Changes in and support for training marketing	30 Hours
Training CETA Professional Staff	2	No changes - Long-term plans made	16 Hours
Developing Vocational Evaluation Internationally	4	Information given	8 Hours
Developing Intern Training Plan	3	Schedules, goals and objectives set	12 Hours
Planning Collaboration with Wis. DVR	4	Plans	8 Hours
Planning Graduate Curriculum With Out-of-State University	4	Curriculum developed	30 Hours
Planning Training Consortium With Out-of-State College	4	Plans developed	15 Hours
Evaluating Facility Programming	2	Information given	2 Hours
Explained Relation of Workmen's Comp. to Voc. Eval.	2	Information given	8 Hours
Conferring Regarding Selection of Training Materials for Rehab. Facilities	60	Resources identified and either referred to or sent	80 Hours

Consultation Topics	Est. # of Contacts	Some Relevant Outcomes	Total Time Est. for Contacts
Assisting Rehab. Programs in Identifying Available Training Programs	12	Referral made	8 Hours
Replying to Requests Re: RTC#22 Training Offerings Information	200	Information given	125 Hours
Training Needs Assessments with Facilities and Agencies	36	Needs assessment procedure outlines, conducted and agenda constructed	70 Hours
Assistance to Facilities and Agencies in Recruiting Professional Rehabilitation Personnel	8	Information given	4 Hours
Assisting in Seeking Funding for Participation in Professional Rehab. Training	30	Referrals made	18 Hours
Consultation with Preservice Training Institutions Re: Curriculum Development in Rehab. Services	11	Information given	45 Hours
Assistance in Grant Development Regarding Institution of Rehab. Services Programs	6	Information given	18 Hours
CARF Surveys	5	Program improvement and certification	80 Hours
Vocational Rehabilitation with Am. Indians	1	Program improvement	4 Hours
Presenting Training and Education Resources	20	In-service training and self-development	20 Hours

Consultation Topics	Est. # of Contacts	Some Relevant Outcomes	Total Time Est. for Contacts
Post-CARF Survey Assistance to Facilities	5	Program Improvement	20 Hours
Assisting Individual Students From Voc. Rehab. Undergrad/Grad. Programs	30	Professional growth and development	50 Hours
Audiovisual Methods	4	Helped advance the use of media type programs in facilities	2 Hours
Rehabilitation Engineering Resources	6	Assisted facility personnel in obtaining answers to specific problems dealing with job adaptations	4 Hours
Rehabilitation Engineering Resources for State Counselors	10	Project developed by state agency to train counselors in the field	8 Hours

TRAINING PROJECTS

Conducted-Continuing

Project Number	Title	Page
T-65	Introduction to Adjustment Services	394
T-65	Introduction to Adjustment Services	398
T-80	Introduction to Vocational Evaluation Services	402
T-80	Introduction to Vocational Evaluation Services	406
T-80	Introduction to Vocational Evaluation Services	410
T-80	Introduction to Vocational Evaluation Services	414
T-80	Introduction to Vocational Evaluation Services	418
T-153	Vocational Evaluation in School Settings	422
T-153	Vocational Evaluation in School Settings	426
T-153	Vocational Evalution in School Settings	430
T-170	Special Professional Consultations Regarding Training	434
T-171	Special Training as Requested, Specific Short-Term Training	436
T-172	Graduate and Undergraduate Guest Lecturing - Vocational Rehabilitation	438

Conducted-New

T-150	Similar Benefits Utilization	440
T-154	Law and the Handicapped	444
T-155	Developing Vocational Evaluation Services Within Public Schools	448
T-157	Orientation to Vocational Rehabilitation - Veteran's Administration	450
T-159	Overview of Vocational Evaluation	454
T-160	Introduction to Vocational Evaluation	458
T-161	Certification in Vocational Rehabilitation Services	462
T-162	Overview of Adjustment Services	464

TRAINING PROJECTS (Continued)

Project Number	Title	Page
T-163	Handicap Awareness Week Conference Training	468
T-164	Overview of Vocational Evaluation Services	470
T-165	7th Institute on Rehabilitation Issues - Interpreter Services for the Rehabilitation Counselor	474
T-166	Stout Vocational Rehabilitation Institute Pre-Conference Training Program	478
T-167	Job Placement and Job Readiness for JPD of Wisconsin	480
T-169	Counselor Utilization of Vocational Evaluation Services and Psychological Assessment	482

Proposed

Project Number	Title	Page
T-156	Floor Supervisor Training	484
T-158	Job Placement Services in Vocational Rehabilitation	488
T-168	Rehabilitation Engineering Resources/Job Redesign and Restructuring	492
TC-5	Selected Aspects of Adjustment Services Training	498
TC-6	Counselor Utilization of Vocational Evaluation Services	502
TC-7	Vocational Evaluation in School Settings Training Manual	506

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-65

1. ___ Proposed X Conducted X Continuing

2. Title Introduction to Adjustment Services, Eau Claire, Wisconsin
March 10-21, 1981

3. Hours per day 8 No. of days 10 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 2
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	9,680	1,760		11,440
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,840			1,840
Totals	11,520	1,760		13,280
Percent	87%	13%		100%

7.

Disciplines of Trainee(s):	No. of Trainees
Rehabilitation Counselor	3
Vocational Evaluator	2
Adjustment Specialist	5
Job Placement Specialist	1
Rehabilitation Services Coordinator	1
Production Supervisor	2

Male 8 Female 6

Max. No. Trainees Proposed 25 Total Trainees Conducted 14

Total Minorities 1

By Type: Puerto Rican ___ Asian-American ___ Black 1 Gypsy ___
American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Darrell Coffey, Ed.D.	Rehabilitation Services Education
Tom Esser, M.S.	Rehabilitation Services
Colleen Esser, M.S.	Rehabilitation Services
Susan Stori, M.S.	Rehabilitation Services
Dotti Rottier, M.S.	Rehabilitation Services
Gary Larson, M.S.	Vocational Evaluation
Bill Johnson, M.S.	Audiovisual Communications
Sue Schmitt, M.S.	Rehabilitation Counseling
Eileen Van Soest, M.S.	Special Education/Rehabilitation
Paul Maulucci, M.S.	Work Adjustment
Sam Jenkins, M.S.	Rehabilitation Services
Jim Costello, M.S.	Rehabilitation Services

9. Description and Objectives

Description - The purpose of this training workshop was to instruct adjustment services facility and state agency staff personnel in the the basic concepts and techniques of work adjustment/adjustment services.

Objectives -

A. To provide an overview of the components, concepts, and techniques of work adjustment.

B. To instruct participants in learning theory and principles of learning and to apply those principles to various behavior change techniques.

C. To provide practical experience in the development of individualized program plans.

D. To introduce and discuss principles of the placement process.

E. To provide practical experience in client behavior identification and analysis.

F. To present resource tools useful in adjustment services programming, e.g.,job analysis, task analysis, occupational information resources.

G. To provide experiential exercises to increase participant awareness of stereotypes/myths concerning persons who are disabled.

H. To address individual participant work-related problems and use group input to develop tentative solutions.

I. To provide resources (printed, personnel and audiovisual materials) to participants to further expand knowledge and expertise in work adjustment.

10. Course contains new knowledge based on RTC research findings. Yes.

R-39 "A Client Referral Inventory Services Delivery" - RTC #22, University of Wisconsin-Stout.

R-47 "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-37 "A Study of the Vocational Decision Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

R-41 "A Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

R-43 "Resources for Competency-Based Training of Adjustment Personnel: A Joint Research and Training Project" - RTC #22, University of Wisconsin-Stout.

R-45 "An Analysis of Self-Monitoring on Work Skills of Vocational Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-143 "Comprehensive Job Placement Models for State Vocational Rehabilitation Agencies" - RTC #9, George Washington University.

R-142 "Human Engineering Factors Related to Disabilities: Use in Vocational Rehabilitation" - RTC #9, George Washington University.

R-167 "Family Rehabilitation Therapy with Significantly Disabled Parents"- RTC #11, University of Wisconsin.

R-174 "Client Motivation in Rehabilitation" - RTC #13, University of Arkansas.

R-176 "Development and Evaluation of a Set of Systematic Training Units to Increase or Decrease Selected Client Behaviors" - RTC #13, University of Arkansas.

R-182 "Development and Evaluation of an Interpersonal Skills Training Package" - RTC #13, University of Arkansas.

R-186 "Goal Planning in Rehabilitation Counseling" - RTC #13, University of Arkansas.

R-200 "Factors Influencing Work Adjustment of Disabled Workers" - RTC #15, University of West Virginia.

R-201 "Job Obtaining Behavior Strategy (J.O.B.S.): The Use of Group Counseling and Intensive Behavioral Instruction for Vocational Placement of Rehabilitation Clients" - RTC #15, West Virginia University.

R-212 "Evaluation and Training of the Severely/Profoundly Handicapped for Community Adjustment" - RTC #16, University of Oregon.

R-259 "Effects of Job Enrichment on Work Performance of the Mentally Retarded" - RTC #21, Texas Tech University.

R-260 "Effects of Goal Setting Training on the Job Performance of the Mentally Retarded" - RTC #21, Texas Tech University.

R-265 "Applications of Behavioral Training Strategies with the Mentally Retarded in Sheltered Work Settings" - RTC #21, Texas Tech University.

R-256 "Models for Services to the Severely Handicapped" - RTC #21, Texas Tech University.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.1.

Participants rated their personal, professional objectives for participation ~~being~~ met at a rate of 88%.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-65

1. ___ Proposed X Conducted X Continuing

2. Title Introduction to Adjustment Services, Philadelphia, Pennsylvania, May 5-16, 1980

3. Hours per day 8 No. of days 10 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 2
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	9,680	1,760		11,440
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,840			1,840
Totals	11,520	1,760		13,280
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Rehabilitation Counselors	2
Vocational Evaluators	2
Adjustment Specialists	6
Occupational Therapist	1
Production Supervisor	3
Service Coordinators	4
Facility Specialists	2

Male 9 Female 11

Max. No. Trainees Proposed 25 Total Trainees Conducted 20

Total Minorities 4

By Type: Puerto Rican 2 Asian-American ___ Black 2 Gypsy ___

American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Colleen Esser, M.S.	Rehabilitation Services
Wm. Stewart, M.S.	Education & Human Services
Darrell Coffey, Ed.D.	Rehabilitation Services Education
Sue Schmitt, M.A.	Rehabilitation Counseling
Dotti Rottier, M.S.	Rehabilitation Services
Susan Stori, M.S.	Vocational Rehabilitation
Eileen Van Soest, M.S.	Special Education
Gary Larson, M.S.	Vocational Evaluation

9. Description and Objectives

Description - The purpose of this training workshop was to instruct adjustment services facility and state agency staff personnel in the basic concepts and techniques of work adjustment/adjustment services.

Objectives - The following objectives were established for this program:

A. To provide an overview of the components, concepts, and techniques of work adjustment.

B. To instruct participants in learning theory and principles of learning and to apply those principles to various behavior change techniques.

C. To provide practical experience in the development of individualized program plans.

D. To introduce and discuss principles of the placement process.

E. To provide practical experience in client behavior identification and analysis.

F. To present resource tools useful in adjustment services programming, e.g. job analysis, task analysis, occupational informational resources.

G. To provide experiential exercises to increase participant awareness of stereotypes/myths concerning persons who are disabled.

H. To address individual participant work-related problems and use group input to develop tentative solutions.

I. To provide resources (printed, personnel, audiovisual materials) to participants to further expand knowledge and expertise in work adjustment.

10. Course contains new knowledge based on RTC research findings. Yes.

R-39 "A Client Referral Inventory Services Delivery" - RTC #22, University of Wisconsin-Stout.

R-47 "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-37 "A Study of the Vocational Decision Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

R-41 "A Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

R-43 "Resources for Competency-Based Training of Adjustment Personnel: A Joint Research and Training Project" - RTC #22, University of Wisconsin-Stout.

R-45 "An Analysis of Self-Monitoring on Work Skills of Vocational Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-143 "Comprehensive Job Placement Models for State Vocational Rehabilitation Agencies" - RTC #9, George Washington University.

R-142 "Human Engineering Factors Related to Disabilities: Use in Vocational Rehabiliation" - RTC #9, George Washington University.

R-167 "Family Rehabilitation Therapy with Significantly Disabled Parents" - RTC #11, University of Wisconsin.

R-174 "Client Motivation in Rehabilitation" - RTC #13, University of Arkansas.

R-176 "Development and Evaluation of a Set of Systematic Training Units to Increase or Decrease Selected Client Behaviors" - RTC #13, University of Arkansas.

R-182 "Development and Evaluation of an Interpersonal Skills Training Package" - RTC #13, University of Arkansas.

R-186 "Goal Planning in Rehabilitation Counseling" - RTC #13, University of Arkansas.

R-200 "Factors Influencing Work Adjustment of Disabled Workers" - RTC #15, West Virginia University.

R-201 "Job Obtaining Behavior Strategy (J.O.B.S.): The Use of Group Counseling and Intensive Behavioral Instruction for Vocational Placement of Rehabilitation Clients" - RTC #15, West Virginia University

R-212 "Evaluation and Training of the Severely, Profoundly Handicapped for Community Adjustment" - RTC #16, University of Oregon.

R-259 "Effects of Job Enrichment on Work Performance of the Mentally Retarded" - RTC #21, Texas Tech University.

R-260 "Effects of Goal Setting Training on the Job Performance of the Mentally Retarded" - RTC #21,Texas Tech University.

R-265 "Applications of Behavioral Training Strategies with the Mentally Retarded in Sheltered Work Settings." - RTC #21, Texas Tech University.

R-256 "Models for Services to the Severely Handicapped" - RTC #21. Texas Tech University.

11. Course Evaluation

Participants completed an evaluation form in which both individual presentation as well as the overall value of the workshop were rated. On a scale of 1 (low) to 5 (high) presentations received a 4.6 average rating. Comments on the overall value of the workshop were generally very positive.

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TRAINING PROJECT REPORT

Project No. T-80

1. ___ Proposed X Conducted X Continuing

2. Title Introduction to Vocational Evaluation Services, Phoenix, Arizona, February 11-22, 1980

3. Hours per day 8 No. of days 10 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 5
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	9,680	1,760		11,440
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,840			1,840
Totals	11,520	1,760		13,280
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators	17
Adjustment Specialists	2
Occupational Therapists	2
Job Placement Specialists	2
Habilitation Specialist	1
Vocational Rehabilitation Counselor	1

Male 11 Female 14

Max. No. Trainees Proposed 30 Total Trainees Conducted 25

Total Minorities 2

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___

American Indian 2 Chicano ___ Cuban ___ Other ___

8. Instructors

Wm. C. Stewart, M.S.	Education & Human Services
Colleen Esser, M.S.	Rehabilitation Services
Tom Modahl, Ed.D.	Rehabilitation Services
Gary Larson, M.S.	Vocational Evaluation
Steve Thomas, M.S.	Vocational Evaluation
Darrell Coffey, Ed.D.	Rehabilitation Services Education
Tony Langton, M.S.	Rehabilitation Services

9. Description and Objectives

Description - This course has been developed to meet the needs of vocational evaluation practitioners working in rehabilitation settings, to increase their knowledge in and to develop the basic skills necessary to the provision of comprehensive vocational evaluation services to the disabled.

Objectives -

A. To present the definitions, steps, goals and rationale for vocational evaluation services for the disabled.

B. To discuss the role, function and competencies of the vocational evaluator.

C. To present the available types of tools (as per VEWAA) with which to conduct vocational evaluation.

D. To discuss client referral, intake planning and interviewing within the vocational evaluation process.

E. To present rationale and techniques for observing and recording client work performance and work behavior with accompanying skill development exercises.

F. To discuss the purpose/utility of psychometric tests as vocational evaluation tools and to provide experiential exercises regarding selections, administration, scoring and interpretation of instruments.

G. To provide participants with knowledge of occupational information resources and their application in the vocational evaluation/career development process.

H. To discuss the use of various types of work samples and their applications, and to provide an experience in the development of these tools.

I. To define job and task analysis procedures and their application in vocational evaluation as well as to provide skill development exercises.

J. To familiarize participants with the Dictionary of Occupational Titles and accompanying publications and instruct in their usage as vocational evaluation tools.

K. To increase awareness among participants regarding vocational and independent living potentials of the severely disabled and promote the client advocacy role of vocational rehabilitation professionals.

L. To make participants aware of available "rehabilitation engineering resources" and their potential impact on vocational evaluation services.

M. To discuss professional communications (staffing, report writing, personal relations, etc.) and their importance in the vocational evaluation process, and also to provide references for their future use.

N. To discuss models for professional growth and development and to assist individual participants in planning for same.

O. To present guidelines for evaluating and/or developing vocational evaluation units and programs.

P. To discuss trends and critical issues in vocational evaluation.

10. Course contains new knowledge based on RTC research findings. Yes.

R-39 "A Client Referral Inventory Services Delivery" RTC #22, University of Wisconsin-Stout.

R-47 "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-37 "A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

R-38 "The Effects of Vocational Evaluation on the Rehabilitation Client and Counselor" - RTC #22, University of Wisconsin-Stout.

R-41 "The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

R-44 "Vocational Evaluation Services: A Systems Approach" - RTC #22, University of Wisconsin-Stout.

R-142 "Human Engineering Factors Related to Disabilities: Use in Vocational Rehabilitation"- RTC #9, George Washington University.

R-165 "Project De-institutionalization: Using Extended Evaluation to Enable Institutionalized Severely Developmentally Persons to Demonstrate Their Vocational Rehabilitation Potential" - RTC #11, University of Wisconsin.

R-196 "Program Evaluation and Planning (Tools for Rehabilitation)" - RTC #15, West Virginia University.

R-197 "Analyzing Performance Compentencies of Severely Handicapped Clients" - RTC #16, University of Oregon.

R-213 "Utilization of the Social and Prevocational Information Battery" - RTC #16, University of Oregon.

R-256 "Models for Services to the Severely Handicapped" - RTC #21, Texas Tech University.

Selected monographs from RTC #25, Boston University.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.3.

Participants rated their personal, professional objectives for participation being met at a rate of 92%.

TRAINING PROJECT REPORT

Project No. T-80

1. ___ Proposed X Conducted X Continuing

2. Title Introduction to Vocational Evaluation Services,
Eau Claire, Wisconsin, April 15-25, 1980

3. Hours per day 8 No. of days 10 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 5
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	9,680	1,760		11,440
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,840			1,840
Totals	11,520	1,760		13,280
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators	15
Educators	2
Administrators	4
Vocational Evaluation Technician	1
Training Foreman	1
Psychologist	1
Program Specialist	1

Male 11 Female 14

Max. No. Trainees Proposed ___ Total Trainees Conducted 25

Total Minorities 4

By Type: Puerto Rican ___ Asian-American 1 Black 2 Gypsy ___

American Indian 1 Chicano ___ Cuban ___ Other ___

8. Instructors

Colleen Esser, M.S.	Rehabilitation Services
Wm. Stewart, M.S.	Education and Human services
Tom Modahl, Ed.D.	Rehabilitation Services
Darrell Coffey, Ed.D.	Rehabilitation Services Education
Ron Fry, M.S.	Vocational Evaluation
Gary [illegible]son, M.S.	Vocational Evaluation
Wm. [illegible]nson, M.S.	Audiovisual Communication
Shirley Stewart, M.S.	Vocational Evaluation
Dotti Rottier, M.S.	Rehabilitation Services
Tony Langton, M.S.	Rehabilitation Services
Jim Costello, M.S.	Vocational Evaluation

9. Description and Objectives

Description - This course has been developed to meet the needs of vocational evaluation practitioners working in rehabilitation settings, to increase their knowledge in and to develop the basic skills necessary to the provision of comprehensive vocational evaluation services to the disabled.

Objectives -

A. To present the definitions, steps, goals and rationale for vocational evaluation services for the disabled.

B. To discuss the role, function and competencies of the vocational evaluator.

C. To present the available types of tools (as per VEWAA) with which to conduct vocational evaluation.

D. To discuss client referral, intake planning and interviewing within the vocational evaluation process.

E. To present rationale and techniques for observing and recording client work performance and work behavior with accompanying skill development exercises.

F. To discuss the purpose/utility of psychometric tests as vocational evaluation tools and to provide experiential exercises regarding selections, administration, scoring and interpretation of instruments.

G. To provide participants with knowledge of occupational information resources and their application in the vocational evaluation/career development process.

H. To discuss the use of various types of work samples and their applications, and to provide an experience in the development of these tools.

I. To define job and task analysis procedures and their application in vocational evaluation as well as to provide skill development exercises.

J. To familiarize participants with the Dictionary of Occupational Titles and accompanying publications and instruct in their usage as vocational evaluation tools.

K. To increase awareness among participants regarding vocational and independent living potentials of the severely disabled and promote the client advocacy role of vocational rehabilitation professionals.

L. To make participants aware of available "rehabilitation engineering resources" and their potential impact on vocational evaluation services.

M. To discuss professional communications (staffing, report writing, personal relations, etc.) and their importance in the vocational evaluation process, and also to provide references for their future use.

N. To discuss models for professional growth and development and to assist individual participants in planning for same.

O. To present guidelines for evaluating and/or developing vocational evaluation units and programs.

P. To discuss trends and critical issues in vocational evaluation.

10. Course contains new knowledge based on RTC research findings. Yes

R-39 "A Client Referral Inventory Services Delivery" - RTC #22, UW-Stout.

R-47 "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-37 "A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

R-38 "The Effects of Vocational Evaluation on the Rehabilitation Client and Counselor" - RTC #22, University of Wisconsin-Stout.

R-41 "The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

R-44 "Vocational Evaluation Services: A Systems Approach" - RTC #22.

R-142 "Human Engineering Factors Related to Disabilities: Use in Vocational Rehabilitation - RTC #9, George Washington University.

R-165 "Project De-institutionalization: Using Extended Evaluation to Enable Institutionalized Severely Developmentally Persons to Demonstrate Their Vocational Rehabilitation Potential" - RTC #11, University of Wisconsin.

R-196 "Program Evaluation and Planning (Tools for Rehabilitation)" - RTC #15, West Virginia University.

R-197 "Analyzying Performance Competencies of Severely Handicapped Clients" - RTC #16, University of Oregon.

R-213 "Utilization of the Social and Prevocational Information Battery" - RTC #16, University of Oregon.

R-256 "Models for Services to the Severely Handicapped" - RTC #21, Texas Tech University.

Selected monographs from RTC # 25, Boston University.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation, and presenter averaged 4.4.

Participants rated their personal, professsional objectives for participation being met at a rate of 97%.

TRAINING PROJECT REPORT

Project No. T-80

1. ___ Proposed X Conducted X Continuing

2. Title Introduction to Vocational Evaluation Services, Seattle, Washington, July 14-25, 1981

3. Hours per day 8 No. of days 10 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 5
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	9,680	1,760		11,440
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,840			1,840
Totals	11,520	1,760		13,280
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Rehabilitation Counselors	4
Vocational Evaluators	10
Occupational Therapists	4
Educator	1
Administrator - Program Evaluator	1
Work Placement Coordinators	2
Student (V.R. Graduate Program)	1

Male 9 Female 14

Max. No. Trainees Proposed 25 Total Trainees Conducted 23

Total Minorities 0

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___

American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Wm. Stewart, M.S.	Education and Human Services
Shirley Stewart, M.S.	Vocational Evaluation
Stan Owings, M.S.	Vocational Evaluation
Bill Johnson, M.S.	Audiovisual Communication
Darrell Coffey, Ed.D.	Rehabilitation Services Education
Tony Langton, M.S.	Rehabilitation Services

9. Description and Objectives

Description - This course has been developed to meet the needs of vocational evaluation practitioners working in rehabilitation settings, to increase their knowledge in and to develop the basic skills necessary to the provision of comprehensive vocational evaluation services to the disabled.

Objectives -

A. To present the definitions, steps, goals and rationale for vocational evaluation services for the disabled.

B. To discuss the role, function and competencies of the vocational evaluator.

C. To present the available types of tools (as per VEWAA) with which to conduct vocational evaluation.

D. To discuss client referral, intake planning and interviewing within the vocational evaluation process.

E. To present rationale and techniques for observing and recording client work performance and work behavior with accompanying skill development exercises.

F. To discuss the purpose/utility of psychometric tests as vocational evaluation tools and to provide experiential exercises regarding selections, administration, scoring and interpretation of instruments.

G. To provide participants with knowledge of occupational information resources and their application in the vocational evaluation/career development process.

H. To discuss the use of various types of work samples and their applications, and to provide an experience in the development of these tools.

I. To define job and task analysis procedures and their application in vocational evaluation as well as to provide skill development exercises.

J. To familiarize participants with the Dictionary of Occupational Titles and accompanying publications and instruct in their usage as vocational evaluation tools.

K. To increase awareness among participants regarding vocational and independent living potentials of the severely disabled and promote the client advocacy role of vocational rehabilitation professionals.

L. To make participants aware of available "rehabilitation engineering resources" and their potential impact on vocational evaluation services.

M. To discuss professional communications (staffing, report writing, personal relations, etc.) and their importance in the vocational evaluation process, and also to provide references for their future use.

N. To discuss models for professional growth and development and to assist individual participants in planning for same.

O. To present guidelines for evaluating and/or developing vocational evaluation units and programs.

P. To discuss trends and critical issues in vocational evaluation.

10. Course contains new knowledge based on RTC research findings. Yes.

R-39 "A Client Referral Inventory Services Delivery" - RTC #22, University of Wisconsin-Stout.

R-47 "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-37 "A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

R-38 "The Effects of Vocational Evaluation on the Rehabilitation Client and Counselor" - RTC #22, University of Wisconsin-Stout.

R-41 "The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

R-44 "Vocational Evaluation Services: A Systems Approach" - RTC #22, University of Wisconsin-Stout.

R-142 "Human Engineering Factors Related to Disabilities: Use in Vocational Rehabilitation - RTC #9, George Washington University.

R-165 "Project De-institutionalization: Using Extended Evaluation to Enable Institutionalized Severely Developmentally Persons to Demonstrate Their Vocational Rehabilitation Potential" - RTC #11, University of Wisconsin.

R-196 "Program Evaluation and Planning (Tools for Rehabilitation)" - RTC #15, West Virginia University.

R-197 "Analyzing Performance Competencies of Severely Handicapped Clients" - RTC #16, University of Oregon.

R-213 "Utilization of the Social and Prevocational Information Battery" - RTC #16, University of Oregon.

R-256 "Models for Services to the Severely Handicapped" - RTC #21, Texas Tech University.

Selected monographs from RTC #25, Boston University.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.2.

Participants rated their personal, professional objectives for participation being met at a rate of 90%.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-80

1. Proposed X Conducted X Continuing

2. Title Introduction to Vocational Evaluation Services
Cincinnati, Ohio, September 15-26, 1980

3. Hours per day 8 No. of days 10 Credit Available: Yes No X

4. Course: Univ Curriculum Intern/Residency Cont Ed/Inservice X Other

5. Number of times offered (or to be) during year 5
To be repeated next year: Yes X No

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	9,680	1,760		11,440
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,840			1,840
Totals	11,520	1,760		13,280
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators	29
Program Evaluators	2
Occupational Therapist	1
Skill Trainers	2
Placement Specialist	1
Facility Specialists	2
Vocational Technicians	3

Male 15 Female 25

Max. No. Trainees Proposed 40 Total Trainees Conducted 40

Total Minorities 5

By Type: Puerto Rican Asian-American 1 Black 3 Gypsy
American Indian Chicano 1 Cuban Other

8. Instructors

Howard Caston, M.S.	Rehabilitation Counseling
Colleen Esser, M.S.	Rehabilitation Services
Dotti Rottier, M.S.	Rehabilitation Services
Darrell Coffey, Ed.D.	Rehabilitation Education
Tom Roundtree, M.S.	Vocational Evaluation
Bill Stewart, M.S.	Education and Human Services
Bill Johnson, M.S.	Audiovisual Communications

9. Description and Objectives

Description - This course has been developed to meet the needs of vocational evaluation practitioners working in rehabilitation settings, to increase their knowledge in and to develop the basic skills necessary to the provision of comprehensive vocational evaluation services to the disabled.

Objectives -

A. To present the definitions, steps, goals and rationale for vocational evaluation services for the disabled.

B. To discuss the role, function and competencies of the vocational evaluator.

C. To present the available types of tools (as per VEWAA) with which to conduct vocational evaluation.

D. To discuss client referral, intake planning and interviewing within the vocational evaluation process.

E. To present rationale and techniques for observing and recording client work performance and work behavior with accompanying skill development exercises.

F. To discuss the purpose/utility of psychometric tests as vocational evaluation tools and to provide experiential exercises regarding selections, administration, scoring and interpretation of instruments.

G. To provide participants with knowledge of occupational information resources and their application in the vocational evaluation/career development process.

H. To discuss the use of various types of work samples and their applications, and to provide an experience in the development of these tools.

I. To define job and task analysis procedures and their application in vocational evaluation as well as to provide skill development exercises.

J. To familiarize participants with the Dictionary of Occupational Titles and accompanying publications and instruct in their usage as vocational evaluation tools.

K. To increase awareness among participants regarding vocational and independent living potentials of the severely disabled and promote the client advocacy role of vocational rehabilitation professionals.

L. To make participants aware of available "rehabilitation engineering resources" and their potential impact on vocational evaluation services.

M. To discuss professional communications (staffing, report writing, personal relations, etc.) and their importance in the vocational evaluation process, and also to provide references for their future use.

N. To discuss models for professional growth and development and to assist individual participants in planning for same.

O. To present guidelines for evaluating and/or developing vocational evalution units and programs.

P. To discuss trends and critical issues in vocational evaluation.

10. Course contains new knowledge based on RTC research findings. Yes.

R-39 - "A Client Referral Inventory Services Delivery" - RTC #22, University of Wisconsin-Stout.

R-47 - "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-37 - "A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

R-38 "The Effects of Vocational Evaluation on the Rehabilitation Client and Counselor" - RTC #22, University of Wisconsin-Stout.

R-41 "The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

R-44 "Vocational Evaluation Services: A Systems Approach" - RTC #22, University of Wisconsin-Stout.

R-142 "Human Engineering Factors Related to Disabilities: Use in Vocational Rehabilitation - RTC #9, George Washington University.

R-165 "Project De-institutionalization: Using Extended Evaluation to Enable Institutionalized Severely Developmentally Persons to Demonstrate Their Vocational Rehabilitation Potential" - RTC #11, University of Wisconsin.

R-196 "Program Evaluation and Planning (Tools for Rehabilitation)" - RTC #15, West Virginia University.

R-197 "Analyzing Performance Competencies of Severely Handicapped Clients" - RTC #15, University of Oregon.

R-213 "Utilization of the Social and Prevocational Information Battery" - RTC #16, University of Oregon.

R-256 "Models for Services to the Severely Handicapped" - RTC #21, Texas Tech University.

Selected monographs from RTC #24, Boston University.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.1.

Participants rated their personal, professional objectives for participation being met at a rate of 94%.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-80

1. ___ Proposed X Conducted X Continuing

2. Title Introduction to Vocational Evaluation Services, Eau Claire, Wisconsin, October 6-17, 1980

3. Hours per day 8 No. of days 10 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 5
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	9,680	1,760		11,440
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,840			1,840
Totals	11,520	1,760		13,280
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Rehabilitation Counselor	3
Vocational Evaluators	9
Adjustment Specialist	1
Vocational Skills Specialists	2
Training Officer	1
Production Supervisor	1
Psychologist	1

Male 6 Female 12

Max. No. Trainees Proposed ___ Total Trainees Conducted 18

Total Minorities 2

By Type: Puerto Rican ___ Asian-American ___ Black 1 Gypsy ___

American Indian 1 Chicano 400 Cuban ___ Other ___

8. Instructors

Colleen Esser, M.S.	Rehabilitation Services
Wm. C. Stewart, M.S.	Education and Human Services
Tony Langton, M.S.	Rehabilitation Services
Tom Modahl, Ed.D.	Rehabilitation Counseling
Stan Owings, M.S.	Vocational Evaluation
Dotti Rottier, M.S.	Rehabilitation Services
Dave Buchkowski, M.S.	Vocational Evaluation
Darrell Coffey, Ed.D.	Rehabilitation Services Education
Shirley Stewart, M.S.	Vocational Evaluation
Bill Johnson, M.S.	Audiovisual Communication
George Petrangelo, Ed.D.	Rehabilitation Counseling

9. Description and Objectives

Description - This course has been developed to meet the needs of vocational evaluation practitioners working in rehabilitation settings, to increase their knowledge in and to develop the basic skills necessary to the provision of comprehensive vocational evaluation services to the disabled.

Objectives -

A. To present the definitions, steps, goals and rationale for vocational evaluation services for the disabled.

B. To discuss the role, function and competencies of the vocational evaluator

C. To present the available types of tools (as per VEWAA) with which to conduct vocational evaluation.

D. To discuss client referral, intake planning and interviewing within the vocational evaluation process.

E. To present rationale and techniques for observing and recording client work performance and work behavior with accompanying skill development exercises.

F. To discuss the purpose/utility of psychometric tests as vocational evaluation tools and to provide experiential exercises regarding selections, administration, scoring and interpretation of instruments.

G. To provide participants with knowledge of occupational information resources and their application in the vocational evaluation/career development process.

H. To discuss the use of various types of work samples and their applications, and to provide an experience in the development of these tools.

I. To define job and task analysis procedures and their application in vocational evaluation as well as to provide skill development exercises.

J. To familiarize participants with the Dictionary of Occupational Titles and accompanying publications and instruct in their usage as vocational evaluation tools.

K. To increase awareness among participants regarding vocational and independent living potentials of the severely disabled and promote the client advocacy role of vocational rehabilitation professionals.

L. To make participants aware of available "rehabilitation engineering resources" and their potential impact on vocational evaluation services.

M. To discuss professional communications (staffing, report writing, personal relations, etc.) and their importance in the vocational evaluation process, and also to provide references for their future use.

N. To discuss models for professional growth and development and to assist individual participants in planning for same.

O. To present guidelines for evaluating and/or developing vocational evaluation units and programs.

P. To discuss trends and critical issues in vocational evaluation.

10. Course contains new knowledge based on RTC research findings. Yes.

R-39 "A Client Referral Inventory Services Delivery" - RTC #22, University of Wisconsin-Stout.

R-47 "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-37 "A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

R-38 "The Effects of Vocational Evaluation on the Rehabilitation Client and Counselor" - RTC #22, University of Wisconsin-Stout.

R-41 "The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

R-44 "Vocational Evaluation Services: A Systems Approach" - RTC #22, University of Wisconsin-Stout.

R-142 "Human Engineering Factors Related to Disabilities: Use in Vocational Rehabilitation - RTC #9, George Washington University.

R-165 "Project De-institutionalization: Using Extended Evaluation to Enable Institutionalized Severely Developmentally Persons to Demonstrate Their Vocational Rehabilitation Potential" - RTC #11, University of Wisconsin.

R-196 "Program Evaluation and Planning (Tools for Rehabilitation)" - RTC #15, West Virginia University.

R-197 "Analyzing Performance Competencies of Severely Handicapped Clients" - RTC #16, University of Oregon.

R-213 "Utilization of the Social and Prevocational Information Battery" - RTC #16, University of Oregon.

R-256 "Models for Services to the Severely Handicapped" - RTC #21, Texas Tech University.

Selected monographs from RTC #25, Boston University.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.0.

Participants rated their personal, professional objectives for participation being met at a rate of 95%.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-153

1. ___ Proposed X Conducted X Continuing

2. Title Vocational Evaluation in School Settings, Pontiac, Michigan,
June 16, 27, 1980

3. Hours per day 8 No. of days 10 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 3
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	9,680	1,760		11,440
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,840			1,840
Totals	11,520	1,760		13,280
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Rehabilitation Counselors	4
Vocational Evaluators	3
Educators	18
Occupational Therapist	1
Work Study Coordinator	1
Research Assistant	1

Male 10 Female 18

Max. No. Trainees Proposed 30 Total Trainees Conducted 28

Total Minorities 3

By Type: Puerto Rican ___ Asian-American ___ Black 2 Gypsy ___
American Indian ___ Chicano ___ Cuban ___ Other Rumanian

8. Instructors

Wm. C. Stewart, M.S.	Education and Human Services
Gerry Schneck, Ph.D.	Vocational Education Special Needs
Gretchen Thams, Ph.D.	Pupil Personnel Services
George Petrangelo, Ed.D.	Rehabilitation Counseling
Darrell Coffey, Ed.D.	Rehabilitation Services Education
Wm. Johnson, M.S.	Audiovisual Communication
Tony Langton, M.S.	Rehabilitation Services
Alice Kudlata, M.S.	Special Education

9. Description and Objectives

Description - Public schools are mandated by law to provide education to all citizens regardless of physical or mental disability or social deprivation (i.e., P.L. 94-192).

Public schools serving special need students are becoming aware of the need to provide vocational evaluation and adjustment services in order to assist them to make the adjustment to sheltered or competitive employment and independent living. Requests have been received from school systems in other states for relevant course offerings to upgrade teacher competencies in the areas of vocational evaluation and adjustment services.

In addition, many school districts are seeking means of implementing components of vocational evaluation and work adjustment into "developmental guidance and counseling curriculums," to potentially benefit "all" students, especially in light of their additional responsibilities regarding placement of all students completing secondary education programs.

Objectives - The overall objectives of this workshop were to present a functional model describing how vocational evaluation services and techniques can be applied in public school settings. Content of the course is designed to provide awareness levels in key areas and develop a foundation for further follow-up workshops.

The content of this workshop included theories and models of vocational evaluation services including evaluation planning, decision making, selection and use of assessment techniques, observational skills, simulated work assessment, vocational exploration, utilizing community resources, communication techniques, and development of vocational evaluation units.

The participant will be able to:

A. Complete individual vocational evaluation plans on students.

B. Utilize vocational evaluation data in formulating vocational goals, planning school curriculum, establishing an Individual Education Program (I.E.P.), etc. for individual students.

C. Select and administer appropriate vocational evaluation techniques and tools.

D. Utilize observational techniques to obtain information regarding student assets/limitations (vocational, education, etc.).

E. Improvise simulated work tasks/situations.

F. Assist students in vocational exploration.

G. Utilize community resources to supplement existing school programming.

H. Communicate vocational evaluation findings and recommendations to relevant individuals.

I. Relate and explain vocational evaluation process to administrators, teachers, parents, students, etc.

J. Develop/plan a school-based vocational evaluation unit/program.

10. Course contains no new knowledge based on RTC research findings. However, a great deal of the curriculum material has been drawn from other previously developed training programs in vocational evaluation series.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.5.

Participants rated their personal, professional objectives for participation being met at a rate of 87%.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-153

1. ___ Proposed X Conducted ___ Continuing

2. Title Vocational Evaluation in School Settings, Highland Park, Illinois, August 11-14, 1980

3. Hours per day 9 No. of days 5 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 3
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	5,445			6,435
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,035	990		1,035
Totals	6,480	990		7,470
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators	6
Rehabilitation Counselor	1
Psychologist	1
Service Coordinator	1
Educators	5
Administrator	1
Work Experience Coordinators	2

Male 7 Female 10

Max. No. Trainees Proposed 20 Total Trainees Conducted 17

Total Minorities 0

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___
American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Wm. C. Stewart, M.S.	Education and Human Services
Tony Langton, M.S.	Rehabilitation Services
Gerry Schneck, Ph.D.	Vocational Education/Special Needs
George Petrangelo, Ed.D.	Rehabilitation Counseling

9. Description and Objectives

Description - Public Schools are mandated by law to provide education to all citizens regardless of physical or mental disability or social deprivation (i.e., P.L. 94-192).

Public schools serving special need students are becoming aware of the need to provide vocational evaluation and adjustment services in order to assist them to make the adjustment to sheltered or competitive employment and independent living. Requests have been received from school systems in other states for relevant course offerings to upgrade teacher competencies in the areas of vocational evaluation and adjustment services.

In addition, many school districts are seeking means of implementing components of vocational evaluation and work adjustment into "developmental guidance and counseling curriculums," to potentially benefit "all" students, especially in light of their additional responsibilities regarding placement of all students completing secondary education programs.

Objectives - The overall objectives of this workshop were to present a functional model describing how vocational evaluation services and techniques can be applied in public school settings. Content of the course is designed to provide awareness levels in key areas and develop a foundation for further follow-up workshops.

The content of this workshop included theories and models of vocational evaluation services including evaluation planning, decision making, selection and use of assessment techniques, observational skills, simulated work assessment, vocational exploration, utilizing community resources, communication techniques, and development of vocational evaluation units.

The participant will be able to:

A. Complete individual vocational evaluation plans on students.

B. Utilize vocational evaluation data in formulating vocational goals, planning school curriculum, establishing an Individual Education Program (I.E.P.), etc. for individual students.

C. Select and administer appropriate vocational evaluation techniques and tools.

D. Utilize observational techniques to obtain information regarding student assets/limitations (vocational, education, etc.).

E. Improvise simulated work tasks/situations.

F. Assist students in vocational exploration.

G. Utilize community resources to supplement existing school programming.

H. Communicate vocational evaluation findings and recommendations to relevant individuals.

I. Relate and explain vocational evaluation process to administrators, teachers, parents, students, etc.

J. Develop/plan a school-based vocational evaluation unit/program.

10. Course contains no new knowledge based on RTC research findings. However, a great deal of the curriculum material has been drawn from other previously developed training programs in vocational evaluation series.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Training unit evaluation which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.5.

Participants rated their personal, professional objectives for participation being met at a rate of 90%.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-153

1. ___ Proposed X Conducted X Continuing

2. Title Vocational Evaluation in School Settings, Springfield, Illinois, December 15-19, 1981

3. Hours per day 9 No. of days 5 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 3
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	5,445	990		6,435
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	1,035			1,035
Totals	6,480	990		7,470
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators	2
Educators	3
Psychologists	4
Administrator	1
Staff Development Specialist Consultants - Voc. Ed., Special Needs	9

Male 9 Female 10

Max. No. Trainees Proposed 20 Total Trainees Conducted 19

Total Minorities 2

By Type: Puerto Rican ___ Asian-American ___ Black 1 Gypsy ___
American Indian ___ Chicano 1 Cuban ___ Other ___

8. Instructors

Wm. Stewart, M.S.	Education and Human Services
George Petrangelo, Ed.D.	Rehabilitation Counselor Education
Tom M dahl, Ed.D.	Rehabilitation Counselor Education

9. Description and Objectives

Description - Public schools are mandated by law to provide education to all citizens regardless of physical or mental disability or social deprivation (i.e., P.L. 94-142).

Public schools serving special need students are becoming aware of the need to provide vocational evaluation and adjustment services in order to assist them to make the adjustment to sheltered or competitive employment and independent living. Requests have been received from school systems in other states for relevant course offerings to upgrade teacher competencies in the areas of vocational evaluation and adjustment services.

In addition, many school districts are seeking means of implementing components of vocational evaluation and work adjustment into "developmental guidance and counseling curriculums," to potentially benefit "all" students, especially in light of their additional responsibilities regarding placement of all students completing secondary education programs.

Objectives - The overall objective of this workshop was to present a functional model describing how vocational evaluation services and techniques can be applied in public school settings. Content of the course was designed to provide awareness levels in key areas and develop a foundation for further follow-up workshops.

The content of this workshop included theories and models of vocational evaluation services including evaluation planning, decision making, selection and use of assessment techniques, observational skills, simulated work assessment, vocational exploration, utilizing community resources, communication techniques, and development of vocational evaluation units.

The participant will be able to:

A. Complete individual vocational evaluation plans on students.

B. Utilize vocational evaluation data in formulating vocational goals, planning school curriculum, establishing Individual Education Programs (I.E.P.), etc. for individual students.

C. Select and administer appropriate vocational evaluation techniques and tools.

D. Utilize observational techniques to obtain information regarding student assets/limitations (vocational, educational, etc.).

E. Improvise simulated work tasks/situations.

F. Assist students in vocational exploration.

G. Utilize community resources to supplement existing school programming.

H. Communicate vocational evaluation findings and recommendations to relevant individuals.

I. Relate and explain vocational evaluation process to administrators, teachers, parents, students, etc.

J. Develop/plan a school-based vocational evaluation unit/program.

10. Course contains no new knowledge based on RTC research findings, however, a great deal of the curriculum material has been drawn from other previously developed training programs in vocational evaluation services.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.0.

Participants rated their personal, professional objectives for participation being met at a rate of 84%.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-170

1. ____ Proposed   X Conducted   X Continuing

2. Title Special Professional Consultations Regarding Training

3. Hours per day 1,064   No. of days ____   Credit Available: Yes ___ No ___

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice ___ Other ___

5. Number of times offered (or to be) during year ____
To be repeated next year: Yes ____ No ____

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	12,036			12,036
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	488			488
Totals	12,524			12,524
Percent	100%			100%

7. **Disciplines of Trainee(s):**

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators & Adjustment Specialists	310
(Facility Staff)	
Facility Specialists	25
Rehabilitation Counselors	30
CETA Staff	25
Vocational Rehabilitation Students	15
Other Training Agencies	40
Other Rehabilitation Professionals	120

Male 300   Female 265

Max. No. Trainees Proposed ____   Total Trainees Conducted 565

Total Minorities ____

By Type: Puerto Rican ____ Asian-American ____ Black ____ Gypsy ____

American Indian ____ Chicano ____ Cuban ____ Other ____

8. Instructors

Darrell Coffey, Ed.D.	Rehabilitation Services Education
Wm. Stewart, M.S.	Education and Human Services
Colleen Esser, M.S.	Vocational Rehabilitation
Bill Johnson, M.S.	Audiovisual Rehabilitation
Dotti Rottier, M.S.	Vocational Rehabilitation

9. Description and Objectives

Description - In addition to the direct consultations done in formal training session throughout the year, special requests from practitioners are made daily via telephone and mail. These questions and problems are usually discussed immediately or handled later by telephone or return mail. (Please refer to pages 388-391)

These "special" consultations not only assist practitioners in keeping up to-date on issues and trends in the areas of Vocational Evaluation, Adjustment Services, and Placement, but also serve to maintain a two-way communication between the training staff and the professionals in the field.

Objectives

A. To provide information on training and current issues in vocational evaluation, adjustment services, and placement to practitioners in the field.

B. To develop training for professionals in varied positions to enhance understanding and knowledge of the vocational rehabilitation process.

C. To improve the knowledge of the training staff by keeping in close communication with practitioners.

D. To provide resources for improvement of client services.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-171

1. ___ Proposed X Conducted X Continuing

2. Title Special Training as Requested, Specific Short-Term Training

3. Hours per day 8 No. of days 30 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year Open
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	29,000	5,280		34,280
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	5,520			5,520
Totals	34,520	5,280		39,800
Percent	86%	14%		100%

7. Disciplines of Trainee(s): No. of Trainees

To be determined by agency/facility
requesting training

Male ___ Female ___

Max. No. Trainees Proposed ___ Total Trainees Conducted ___

Total Minorities ___

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___
American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Darrell Coffey, Ed.D.	Rehabilitation Services Education
Wm. Stewart, M.S.	Education and Human Services
Colleen Esser, M.S.	Vocational Rehabilitation
Bill Johnson, M.S.	Audiovisual Rehabilitation
Dotti Rottier, M.S.	Vocational Rehabilitation

9. Description and Objectives

These anticipated "short-term" training programs (ranging from 1 day to 1 week) are based on the number of requests we presently have on file for specific variations of training programs that are presently being offered.

Primarily, they are in response to the specifically stated needs of an agency, rehabilitation facility, institution, etc., that opts for training of a shorter duration and limited variety of subjects.

Content of these programs remains within our mission areas of vocational evaluation, adjustment services, placement, etc. and those areas that interface with these services. Usually these requests require us to make only minor alterations in standard curriculum and to focus on specific application of the above services to a specific setting.

10. Course contains new knowledge based on RTC research findings. Yes.

These training programs reflect the most current philosophy, techniques, processes, tools, etc. as revealed by research findings and other current publications.

11. Course Evaluation

Each of these anticipated, short-term training programs will be evaluated by using a training evaluation form.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-172

1. ___ Proposed X Conducted X Continuing

2. Title Graduate and Undergraduate Guest Lecturing - Vocational Rehabilitation

3. Hours 40 No. of days NA Credit Available: Yes X No ___

4. Course: Univ Curriculum X Intern/Residency ___ Cont Ed/Inservice ___ Other ___

5. Number of times offered (or to be) during year NA
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	4,840	880		5,720
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	920			920
Totals	5,760	880		6,640
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Undergraduate Students - Vocational Rehabilitation	Approx. 340
Graduate Students - Vocational Rehabilitation	Approx. 80

Male ___ Female ___

Max. No. Trainees Proposed ___ Total Trainees Conducted Approx. 420

Total Minorities ___

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___

American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Darrell Coffey, Ed.D.	Rehabilitation Services Education
Colleen Esser, M.S.	Rehabilitation Services
Bill Johnson, M.S.	Audiovisual Communications
Dotti Rottier, M.S.	Rehabilitation Services
Wm. C. Stewart, M.S.	Education and Human Services

9. Description

Guest lecturing was provided in the Department of Vocational Rehabilitation, Stout Vocational Rehabilitation Institute, in the following courses:

A. Adjustment Services - 4 hours

B. Introduction to Vocational Rehabilitation - 6 hours

C. Rehabilitation Facility Operations - 2 hours

D. Procedures of Vocational Evaluation - 8 hours

E. Rehabilitation of the Public Offender - 2 hours

F. Basic Skills in Vocational Rehabilitation - 6 hours

G. Psychometric Testing with the Handicapped - 4 hours

H. Practicum in Vocational Evaluation - 6 hours

I. Seminar in Vocational Rehabilitation - 2 hours

10. Course contains new knowledge based on RTC research findings. Yes.

11. Course Evaluation

Course evaluation was done by assigned Department of Vocational Rehabilitation, Stout Vocational Rehabilitation Institute instructors.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-150

1. ___ Proposed X Conducted ___ Continuing

2. Title Similar Benefits Utilization, Chicago, Illinois, August 4-6, 1980

3. Hours per day 8 No. of days 2 1/2 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ___ No X

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	6,092	440		6,532
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	460			460
Totals	6,552	440		6,992
Percent	94%	6%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
State Vocational Rehabilitation Agency:	
Evaluator/Planners	9
Administrators	9
Mid-level Managers	8
Counselor Supervisors	7
Counselors	8
Region V Continuing Education Center Training Specialist	1

Male 30 Female 12

Max. No. Trainees Proposed 40 Total Trainees Conducted 42

Total Minorities 2

By Type: Puerto Rican ___ Asian-American 1 Black 1 Gypsy ___
American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Daniel C. Mc Alees, Ph.D.	Rehabilitation Counseling
Darrell Coffey, Ed.D.	Rehabilitation Services Education
Colleen Esser	Vocational Rehabilitation

For detailed list of those involved in the planning, coordinating, and conducting of this workshop, see Special Projects Section.

9. Decription and Objectives

Description - The overall goal of this conference was more effective and efficient use of similar benefits in Region V Vocational Rehabilitation Agencies by providing a forum for selected state agency personnel to analyze, synthesize, and utilize information, problems, and new perspectives about similar benefits issues.

Objectives -

A. Identify issues concerning utilization of Similar Benefits.

B. Provide an up-to-date description by state agencies concerning definitions, plans, procedures and practices concerning Similar Benefits Utilization.

C. Apply a problem solving approach to the resolution of issues concerning Similar Benefits Utilization.

D. Identify information to be used in developing Similar Benefits Utilization monitoring/evaluation procedures.

E. Provide participants with new information about Similar Benefits from the perception of (a) national leadership, (b) state administration, (c) a national project model and (d) consumer's viewpoint.

F. Share and interchange Similar Benefits information: (a) by functional responsibility of State staff and (b) by state agency groups.

G. State groups utilize session input and outcomes to review our Similar Benefits procedures.

H. Develop recommendations or a plan by each state group which will have value in local Similar Benefits Utilization.

A steering committee representing RSA Regional Office staff, RTC personnel and five of the eight participating state vocational rehabilitation agencies determined the following strategies for fulfillment of the above objectives:

1. Request state agency directors to identify participants (one of each of the following: evaluators/planner, administrator, mid-level manager, supervisor and experiential counselor).

2. Develop questionnaire to enable participants to identify critical issues of Similar Benefits Utilization.

3. Distribute questionnaires; categorize data from returned questionnaires into major areas and distribute results to all speakers, resource persons, staff, steering committee members, and participants.

4. Distribution of resource materials to all participants.

5. Develop two and one-half day training program with the following structure:

   - Presentation of similar benefits issues from our perspectives; federal agency, state agency, counselor, and consumer. (Presenters: Terry Co[illegible]our, Pete Griswold, Pat Berry and Carolyn Adams).

   - Presentation of model program of monitoring/evaluation of similar benefits usage. (Presenter: John Wade).

   - Issue discussion, prioritization, and resolution by state agency groups.

   - Report by representatives of state agency groups.

6. Final report of proceedings.

10. The following document was extremely valuable for the planning of this workshop, as well as the primary resource document distributed to participants: Similar Benefits, Fifth Institute on Rehabilitation Issues, Research and Training Center, S.V.R.I., University of Wisconsin-Stout, Menomonie, Wisconsin, 1978.

11. Course Evaluation

Evaluation data collected from workshop participants was very positive. Twenty-nine evaluation forms were collected. Twenty-six of these indicated that they felt that the conference achieved its objectives.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-154

1. ____ Proposed X Conducted ____ Continuing

2. Title Law and the Handicapped, Springfield, Illinois, October 24 & 25, 1981
(Presented in cooperation with Sangamon State University)

3. Hours per day 8 No. of days 2 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ____ No X

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	1,936	352		2,288
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	368			368
Totals	2,304	352		2,656
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Rehabilitation Services Consumers	91
Vocational Rehabilitation Service Providers	19

Male 74 Female 36

Max. No. Trainees Proposed 120 Total Trainees Conducted 110

Total Minorities 4

By Type: Puerto Rican ____ Asian-American ____ Black 3 Gypsy ____
American Indian ____ Chicano 1 Cuban ____ Other ____

8. Instructors

Evelyne Villines, Director
Easter Seal Center
Des Moines, Iowa

John Kemp
Kemp and Young Associates
Overland Park, Kansas

Paul Bates
Dept. of Special Education
Southern Illionis University

Saul Morse
Attorney At Law
Springfield, Illinois

Chet June III
Directing Attorney
Illinois Legislative Support Center

Joan Bortolon, Coordinator
Title V
Illinois Dept. of Rehabilitation

Roland Sykes, Coordinator
Illinois Regions I, II, and III

Greg Siedor
Legal Advocacy Service of
Illinois

Jack Genskow
Sangamon State University

9. Description and Objectives

Description - This program was designed to inform persons with disabilities and their advocates of their legal rights. It was intended to provide an opportunity for individuals to become informed in a format designed for interaction with experts. The intent was based on the assumption that people who know their rights and the rights of others can become effective advocates of these rights.

This conference was planned with the assistance of the following agencies and organizations:

- Aid to Retarded Citizens
- American Cancer Society
- Easter Seal Society of Illinois
- Governors Planning Council on Developmental Disabilities
- Illinois Association of Rehabilitation Facilities
- Illinois Department of Rehabilitative Services
- Illinois Developmental Disability Advocacy Authority

- Illinois Rehabilitation Association
- Illinois Spinal Cord Injury Foundation
- Land of Lincoln Goodwill Industries
- Legal Advocacy Service of Illinois
- Lincolnland Epilepsy Association

Consumer Consultants

- SSU Legal Studies Program
- SSU Human Development Counseling Program

Funding was provided in part by:

- Sangamon State University
- Illinois Developmental Disability Advocacy Authority
- Research and Training Center # 22, Stout Vocational Rehabilitation Institute, University of Wisconsin-Stout

Objectives -

The conference was specifically designed to address:

A. Educational rights in public school systems.

B. Protection under Illinois guardianship laws.

C. Equal access to public buildings, transportation, housing and recreation.

D. Securing entitlements from local, state and federal agencies.

E. Protection against employment discrimination.

F. Developing effective lobbying techniques.

10. The following publications were used to conduct the training:

Probate Act, State of Illinois.

Position Papers of the American Association on Mental Deficiency.

American Attorney's Guide to Guardianship for Developmentally Disabled Adults, prepared by Illinois Association for Retarded Citizens.

Report, Governor's Commission for Revision of the Mental Health Code of Illinois, 1976.

Manual of Public Interest Lobbying in Illinois, prepared by Legislative Support Center, Springfield, Illinois.

Clearinghouse Review, Vol. 12, Number 8, December, 1978. Involuntary Guardianship for Incompetents: A Strategy for Legal Services Advocates, Annina M. Mitchell.

Accessibility Standards prepared by Capital Development Board, Springfield, Illinois.

Overdue Process: Providing Legal Services to Disabled Clients prepared by Regional Rehabilitation Research Institute on Attitudinal, Legal and Leisure Barriers, George Washington University, Washington, D.C.

Law and Disability: A Selected Annotated Bibliography prepared by Regional Rehabilitation Research Institute on Attitudinal, Legal and Leisure Barriers, George Washington University, Washington, D.C.

Handbook of Employment Rights of the Handicapped: Sections 503 and 504 of the Rehabilitation Act of 1973, prepared by Regional Rehabilitation Research Institute, George Washington University, Washington, D.C.

Publications List prepared by George Washington University.

Illinois Development Disabilities Advocacy Authority Handbook prepared by IDDAA, Springfield, Illinois.

11. Course Evaluation

Conference evaluations indicated almost universal approval and all the sessions received almost total endorsement. There were no sessions which were evaluated consistently as not helpful.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-155

1. ___ Proposed X Conducted ___ Continuing

2. Title Developing Vocational Evaluation Services Within Public Schools, Madison, Wisconsin, August 11-15, 1980

3. Hours per day 2 No. of days 1 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ___ No X

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	242	44		286
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	46			46
Totals	288	44		332
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators	80
Counselors	17

Male 47 Female 50

Max. No. Trainees Proposed ___ Total Trainees Conducted 97

Total Minorities 5

By Type: Puerto Rican ___ Asian-American ___ Black 3 Gypsy ___

American Indian ___ Chicano 2 Cuban ___ Other ___

8. Instructor

Allen Noll, Ed.S. Industrial and Vocational Education

9. Description and Objectives

Description - This training was conducted as a concurrent session at the National Rehabilitation Association's 1980 National Conference. This training was requested by the program committee of the Vocational Evaluation and Work Adjustment Association Chapter. Persons attending the training included professionals in vocational evaluation, work adjustment and administration.

The training concentrated on what assessment needs the educational system had in developing Individual Education Programs and adapting vocational education programs to meet the needs of disabled students. Specific techniques were discussed to meet the needs through the vocational evaluation process. Slides of four programs serving disabled students were shown to exemplify discussed assessment procedures.

Objectives -

A. Participants will become aware of the Individual Education Program process.

B. Participants will become aware of the assessment information needed to modify vocational education programs.

C. Participants will develop skills to provide information for Individual Education Programs and vocational program modifications by utilizing vocational evaluation.

D. Participants will develop skills to adapt vocational evaluation programs to meet the needs of special needs students.

10. Course contains new knowledge based on RTC research findings. No.

11. Course Evaluation

The brief nature of the presentation made formal evaluation inadvisable. The number of questions from participants were indicative of an interest in the presentation by participants.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-157

1. ___ Proposed X Conducted ___ Continuing

2. Title "Orientation to Vocational Rehabilitation" Veteran's Administration, Salt Lake City, Utah, July 14-17, 1980

3. Hours per day 8 No. of days 4 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ___ No X

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	3,872	704		4,576
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	736			736
Totals	4,608	704		5,312
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Rehabilitation Counselors	12
Re-adjustment Specialists	8
Psychologists	4
Occupational Therapists/Physical Therapists	3
Placement Specialist	1
Social Workers	4
Supervisor/Service Coordinators	3
Educator	1

Male 28 Female 8

Max. No. Trainees Proposed ___ Total Trainees Conducted 36

Total Minorities 3

By Type: Puerto Rican ___ Asian-American 1 Black 2 Gypsy ___

American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Colleen Esser, M.S.	Vocational Rehabilitation Services
Sam Jenkins, M.S.	Rehabilitation Services Education

9. Description and Objectives

Description - The goal of the four-day workshop was to provide in-service training in vocational rehabilitation services and programs to the Vocational Rehabilitation Coordinators and other vocational rehabilitation personnel of seventeen (17) Veteran's Administration Hospitals. Through the use of lectures, audio-visual presentations, small group discussion, and large group problem-solving approaches, participants increased their knowledge of the vocational rehabilitation process in order to provide quality vocational rehabilitation services for their clients.

Topic areas covered included: overview of vocational rehabilitation process; vocational rehabilitation service planning; accreditation standards in vocational rehabilitation; tools of vocational evaluation; psychometric assessment; occupational information resources; adjustment services programming; placement process and techniques; and, trends in vocational rehabilitation.

In addition, a presentation on the Viet Nam Veteran's Outreach Program was made by Veteran's Administration staff.

Objectives - The following learner objectives were developed for this in-service program:

A. Participants will define key vocational rehabilitation terms.

B. Participants will know the goals of the vocational rehabilitation process.

C. Participants will know the inter-relationship of selected service components of the vocational rehabilitation service delivery system, i.e.,vocational evaluation, adjustment services, and placement/follow-up services.

D. Participants will define the Minnesota Theory of Work Adjustment as it relates to the vocational rehabilitation process.

E. Participants will know the principles of individualized client programming for all vocational rehabilitation service areas, i.e., vocational evaluation, adjustment services, and/or placement.

F. Participants will know the goals of the vocational evaluation process and the role of the vocational evaluator in that process.

G. Participants will know the professional standards for quality vocational assessment/evaluation programs; i.e.,JCAH and CARF standards.

H. Participants will know the various tools and techniques of the vocational evaluation process and the advantages and disadvantages of these tools/techniques.

I. Participants will identify various occupational information resources useful in assisting clients to reach their vocational goals.

J. Participants will know the goals and scope of adjustment services in the vocational rehabilitation process.

K. Participants will identify behavior change techniques used in adjustment services programming.

L. Participants will know legislation relevant to employment of the disabled; i.e., Sections 503 and 504 of the Rehabilitation Act of 1973.

M. Participants will know resources and techniques available for assistance in job placement of disabled clients; i.e., employment readiness training, job seeking skills training, job restructuring/modification techniques, job development techniques.

N. Participants will know selected future trends in the vocational rehabilitation profession; i.e., independent living assessment and rehabilitation engineering resources.

O. Participants will know vocational rehabilitation resources and techniques specific to the Veteran's Administration; i.e., Vietnam Veteran Outreach Program, and community resources outlined in V.A.R.O.

10. Course contains new knowledge based on RTC research findings. No.

11. Course Evaluation

Individual unit topics were rated by participants on a 5 point scale (5 - high to 1 - low). Average rating for RTC presentations was 4.2. In addition, comments made by participants on the overall value of the workshop were very positive. Participants felt that the majority of the objectives had been met.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-159

1. ___ Proposed X Conducted ___ Continuing

2. Title Overview of Vocational Evaluation, Salt Lake City, Utah
June 2, 1980

3. Hours per day 6½ No. of days 5 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	3,933	715		4,648
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	748			748
Totals	4,681	715		5,396
Percent	87%	13%		100%

7.

Disciplines of Trainee(s):	No. of Trainees
Rehabilitation Counselors	9
Vocational Evaluators	13
Adjustment Specialists	4
Psychologist	1
Supervisor	1
Educator	1
Administrators	2
Student	1
Technician	1

Male 18 Female 15

Max. No. Trainees Proposed ___ Total Trainees Conducted 33

Total Minorities 3

By Type: Puerto Rican ___ Asian-American ___ Black 1 Gypsy ___
American Indian ___ Chicano 2 Cuban ___ Other ___

8. Instructors

George Petrangelo, Ed.D.	Rehabilitation Counseling
Thomas Modahl, Ed.D.	Vocational Rehabilitation
Darrell Coffey, Ed.D.	Vocational Rehabilitation Services

9 Description and Objectives

Description - This course has been developed to meet the needs of counselors and vocational evaluation practitioners working in rehabilitation settings, to increase their knowledge in and to develop the selected skills necessary to referring clients and/or providing comprehensive vocational evaluation services to people who are disabled.

Objectives -

A. To present the definitions, steps, goals and rationale for vocational evaluation services for the disabled.

B. To discuss the role, function and competencies of the vocational evaluator.

C. To present the available types of tools (as per VEWAA) with which to conduct vocational evaluation.

D. To discuss client referral, intake planning and interviewing within the vocational evaluation process.

E. To present rationale and techniques for observing and recording client work performance and work behavior with accompanying skill development exercises.

F. To discuss the use of various types of work samples and their applications, and to provide an experience in the development of these tools.

G. To define job and task analysis procedures and their application in vocational evaluation as well as to provide skill development exercises.

H. To increase awareness among participants regarding vocational and independent living potentials of the severely disabled and promote the client advocacy role of vocational rehabilitation professionals.

I. To discuss professional communications (staffing, report writing, personal relations, etc.) and their importance in the vocational evaluation process, and also to provide references for their future use.

J. To discuss models for professional growth and development and to assist individual participants in planning for same.

K. To discuss trends and critical issues in vocational evaluation.

10. Course contains new knowledge based on RTC research findings. Yes.

R-39 "A Client Referral Inventory Services Delivery" - RTC #22, University of Wisconsin-Stout.

R-47 "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

R-37 "A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

R-38 "The Effects of Vocational Evaluation on the Rehabilitation Client and Counselor" - RTC #22, University of Wisconsin-Stout.

R-41 "The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

R-44 "Vocational Evaluation Services: A Systems Approach" - RTC #22, University of Wisconsin-Stout.

R-165 "Project De-institutionalization: Using Extended Evaluation to Enable Institutionalized Severely Developmentally Persons to Demonstrate Their Vocational Rehabilitation Potential" - RTC #11, University of Wisconsin.

R-196 "Program Evaluation and Planning (Tools for Rehabilitation)" - RTC #15, West Virginia University.

R-197 "Analyzing Performance Competencies of Severely Handicapped Clients" - RTC #16, University of Oregon.

R-213 "Utilization of the Social and Prevocational Information Battery" - RTC # 16, University of Oregon.

R-256 "Models for Services to the Severely Handicapped" - RTC #21, Texas Tech University.

11. Course Evaluation

Training evaluation consisted of a three-part process which consisted of: a) objective test (pre/post), b) training unit evaluations by participants, and c) attainment of participant objectives regarding the training program.

Pre/post testing indicated positive movement on the part of most participants with regard to knowledge of content of program.

Tranining unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter. Content average 3.92 with a range of 3.2 to 4.8, presentation averaged 3.65 with a range of 2.7 to 4.5 and presenters averaged 3.90 with a range of 3.2 to 4.8. Average evaluation of all training units was 3.84 with a range of 3.2 to 4.8. Participants rated their personal, professional objectives for participation as being met at a rate of 94%.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-160

1. ____ Proposed X Conducted ____ Continuing

2. Title Introduction to Vocational Evaluation, Callahan Center, Wilsonville, Oregon, July 28-August 1, 1981

3. Hours per day 8 No. of days 5 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes X No ____

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	4,840	880		5,720
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	920			920
Totals	5,760	880		6,640
Percent	87%	13%		100%

7.

Disciplines of Trainee(s):	No. of Trainees
Industrial Therapist	1
Vocational Evaluators	4
Rehabilitation Counselor (DVR)	1
Psychologist (DVR)	1
Occupational Therapists (DVR)	5
Production Supervisors (DVR)	2
Supervisor (DVR)	1
Industrial Therapists (DVR)	2
Vocational Evaluator (DVR)	1

Male 8 Female 10

Max. No. Trainees Proposed ____ Total Trainees Conducted 18

Total Minorities 0

By Type: Puerto Rican ____ Asian-American ____ Black ____ Gypsy ____

American Indian ____ Chicano ____ Cuban ____ Other ____

8. Instructors

Darrell Coffey, Ed.D.	Rehabilitation Services
Dave Corthell, Ed.D.	Rehabilitation Counseling
George Petrangelo, Ed.D.	Rehabilitation Counseling

9. Description and Objectives

Description - This course was conducted for vocational evaluation practitioners to increase their knowledges in and develop their basic skills in vocational evaluation.

Objectives - Participants will be able to:

A. State the definition, principles, and goals of vocational evaluation as a vocational assessment technique intended to improve the employability of the disabled.

B. Gain knowledge and understanding of how a comprehensive vocational evaluation program operates within a rehabilitation facility.

C. State critical vocational behaviors which have been found to be important in vocational success of the disabled.

D. Describe the significance of interpersonal skills in relation to client behavior change and implement effective interpersonal relationships with clients.

E. State the importance of occupational information in the evaluation process and identify available occupational information resources usable in evaluation.

F. Describe the function of job analysis in the development of the Dictionary of Occupational Titles (D.O.T.).

G. Explain the data, people, things concept and worker functioning levels as useful techniques for relating a client's assets to occupation requirements.

H. Describe the structure and use of the occupational classification system in the D.O.T.

I. Utilize career ladders as a counseling technique to inform clients of job entrance levels and advancement in an occupation.

J. Describe worker trait groups and their use in determing job requirements made upon the worker.

K. Utilize job information as a vocational counseling resource for promoting client occupational awareness.

L. Describe the D.O.T. in work sample development.

M. Utilize a model of evaluation planning in answering referral questions and in organizing evaluation procedures.

N. Critique evaluation reports.

O. Describe job analysis and its application to work sample development and job placement.

P. Function more effectively in observing, analyzing, and categorizing client vocational problems.

Q. Establish vocational goals and select treatment methods useful in assisting clients attainment of specific goals.

10. Course contains new knowledge based on RTC research findings. Yes.

Much of the material presented in the occupational information unit was drawn from the recent article "The Application of a Slide-Tape Presentation to Form a Comparison Between Printed and Non-Printed Occupational Information," William Johnson, Thomas Korn, and Dennis Dunn, 1974.

Some material presented in vocational evaluation results and employability was drawn from Placement Services in the Vocational Rehabilitation Program, Dennis Dunn, Lawrence Currie, Fred Menz, Norman Scheinkman, Jason Andrew, December 1974.

Material on situational analysis as used in situational assessment was taken from Situational Assessment: Models for the Future, Dennis Dunn, Ed.D., January 1973.

Some material for the Dictionary of Occupational Titles training and Occupational Information was drawn from "The Use of the Dictionary of Occupational Titles as a Job Information System in Vocational Counseling," RTC, UW-Stout.

11. Course Evaluation

The program presented specifically focused on providing information and skill development. There were two written evaluation instruments used to measure and evaluate the training program. A pre- and post-test were administered which related to information provided during the two-week session. A short-term training evaluation form was utilized as the measuring device at the end of the second week in addition to the post-test.

Pre- and post-testing resulted in measurable improvement by participants as a result of attendance in the training program.

Administration of the short-term training evaluation form produced ratings of either "considerable value" or "great value" by the participants.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-161

1. ____ Proposed X Conducted ____ Continuing

2. Title Certification in Vocational Rehabilitation Services
Milwaukee, Wisconsin

3. Hours per day 3 No. of days 1 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ____ No X

6. Financial Data:

Item	RT-Funds	Univ. Funds	Others	Total
	Annual Cost in Dollars			
Personnel Costs	363	66		429
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	69			69
Totals	432	66		498
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators and Work Adjustment Specialists	26

Male 11 Female 15

Max. No. Trainees Proposed ____ Total Trainees Conducted 26

Total Minorities 0

By Type: Puerto Rican ____ Asian-American ____ Black ____ Gypsy ____
American Indian ____ Chicano ____ Cuban ____ Other ____

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8. Instructor

Darrell Coffey, Ed.D. Rehabilitation Services

9. Description and Objectives

Description - The purpose of this presentation was to increase group understanding of certification in vocational evaluation and work adjustment.

Objectives -

A. Identify purpose of and rationale for certification.

B. Identify problems and issues of certification.

C. Describe process of certification.

10. Course contains new knowledge based on RTC research findings. Yes.

Presentation was based partly on survey results obtained from RTC-22, University of Wisconsin-Stout surveys on competencies of vocational evaluators, on competencies of work adjustment specialists, and field support for certification.

Coffey, D., Hansen, G., Menz, F. and Coker, C. Vocational evaluator role and function as perceived by practitioners and educators, Menomonie, Wisconsin, University of Wisconsin-Stout, 1978.

Coffey, D. and Ellien, V. Work Adjustment Curriculum Development Project, University of Wisconsin-Stout, 1979.

11. Course Evaluation

Course evaluation was limited to impressions due to the short length of the presentation. Inpressions were "good."

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-162

1. ___ Proposed X Conducted ___ Continuing

2. Title Overview of Adjustment Services, St. Cloud, Minnesota
April 10-11, 1980

3. Hours per day 8 No. of days 2 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ___ No X

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	1,936	352		2,288
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	368			368
Totals	2,304	352		2,656
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Rehabilitation Counselor	1
Vocational Evaluator	1
Skill Training Specialist	1
Production Supervisors	3
Students	10

Male 6 Female 10

Max. No. Trainees Proposed ___ Total Trainees Conducted 16

Total Minorities 0

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___
American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Colleen Esser, M.S.	Vocational Rehabilitation Services
Susan Stori, M.S.	Vocational Rehabilitation

9. Description and Objectives

Description - The purpose of this two-day training was to provide an overview of techniques and concepts of adjustment services in vocational rehabilitation to graduate students of St. Cloud State University's Rehabilitation Counseling Training Program. Also in attendance were field practitioners from a number of facilities and agencies in the northern Minnesota area.

The training program focused on providing information in the following areas: 1) definitions and theory of adjustment services, 2) role and function of the adjustment specialist; 3) individualized program planning; 4) techniques observing and recording behavior; and 5) use of behavior change techniques in adjustment services. Topics were presented by lecture, sound/slide, and group discussion formats.

Objectives - The following objectives were developed for this training program:

A. To discuss the construct of "adjustment services" as defined by selected sources.

B. To discuss the goals for and potential client outcomes of adjustment services (work adjustment).

C. To discuss the career development process as it pertains to the delivery of adjustment services (work adjustment).

D. To discuss the relationship of adjustment services (work adjustment) to other vocational rehabilitation services.

E. To discuss potential components/aspects of adjustment services (work adjustment) (i.e.,vocational, social, independent living).

F. To discuss the adjustment services (work adjustment) process, as per, A Structured Guide for Selecting Training Materials in Adjustment Services (1977).

G. To discuss the role and function of the "adjustment services specialist" as per Work Adjustment Curriculum Development Project (1979).

H. To discuss accountability and quality standards in the delivery of adjustment services (work adjustment).

I. To differentiate between work performance and work behavior.

J. To discuss the rational for recording performance and behavior observations (usage).

K. To discuss "what" should be recorded to include "Critical Vocational Behaviors" (Krantz).

L. To present alternative techniques of observing recording performance and behavior, to include behavior rating scales.

M. To discuss principles and techniques of individualized program planning in adjustment services.

N. To present individualized program planning formats.

O. To present basic principles of learning theory.

P. To define and discuss techniques of behavior change.

10. Course contains new knowledge based on RTC research findings. Yes.

Menz, F. and Ellien, V. "Competencies of the Adjustment Specialist," Work Adjustment Curriculum Development Project, UW-Stout, January 1979.

Menz, F. "Training Needs of Adjustment Personnel," in Work Adjustment Curriculum Development Project, A Summary, RTC, 1979.

11. Course Evaluation Data

Participants were asked to respond to an open-ended questionnaire requesting their opinions as to the value of the training session. Comments were overwhelmingly positive.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-163

1. ___ Proposed X Conducted ___ Continuing

2. Title Handicap Awareness Week Conference Training, Menomonie, Wisconsin, March 31, 1980

3. Hours per day 4 No. of days 1 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ___ No X

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	484	88		572
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	92			92
Totals	576	88		664
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Undergraduate Students (Vocational Rehabilitation)	47
Graduate Students (Vocational Rehabilitation)	14
Vocational Rehabilitation Counselors	4

Male 20 Female 45

Max. No. Trainees Proposed ___ Total Trainees Conducted 65

Total Minorities 12

By Type: Puerto Rican ___ Asian-American 1 Black 8 Gypsy ___
American Indian 2 Chicano 1 Cuban ___ Other ___

8. Instructors

Wm. Johnson, M.S.	Audiovisual Communications
Wm. Stewart, M.S.	Education & Human Services
Colleen Esser, M.S.	Rehabilitation Services
Gary Larson, M.S.	Vocational Evaluation
Darrell Coffey, Ed.D.	Rehabilitation Services Education

9. Description and Objectives

Description - This program was conducted for students involved in university preparation for careers in vocational rehabilitation services, and was designed to present trends in vocational rehabilitation service delivery.

Objectives -

A. To present the role and function of the Research and Training Centers housed in the National Institute of Handicapped Research.

B. To present trends in vocational rehabilitation services (i.e., services for severely disabled, rehabilitation engineering, independent living services and vocational rehabilitation career opportunities).

C. To present policies, trends and resources in the implementation of "similar benefits."

D. To present new, commercial vocational evaluation systems.

E. To discuss vocational rehabilitation trends in legislation and funding.

10. Course contains no new knowledge based on RTC research findings, however, extensive use of literature reviews conducted for research proposal development was made in the development of curriculum materials.

11. Course Evaluation

Evaluation of these sessions consisted only of verbal feedback which was very positive from the standpoint that students felt that the information presented supplemented curricular offerings in their programs.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-164

1. ___ Proposed _X_ Conducted ___ Continuing

2. Title Overview of Vocational Evaluation Services, May 6-7, 1980
Newark, New Jersey

3. Hours per day 8 No. of days 2 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ___ No X

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	1,936	352		2,288
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	368			368
Totals	2,304	352		2,656
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Rehabilitation Counselor	1
Vocational Evaluators	30
Adjustment Specialists	2
Occupational Therapist	1
Placement Specialist	1
Production Supervisors	4
Administrators	3

Male 10 Female 32

Max. No. Trainees Proposed 40 Total Trainees Conducted 42

Total Minorities 10

By Type: Puerto Rican ___ Asian-American ___ Black 8 Gypsy ___
American Indian ___ Chicano 2 Cuban ___ Other ___

8. Instructor

Wm. C. Stewart, M.S. | Education and Human Services

9. Description and Objectives

Description - This program was conducted for vocational evaluation practitioners to develop basic skills, provide refresher training, as well as to provide information regarding trends and issues in vocational evaluation.

Objectives

A. To review vocational evaluation process, components, function and goals.

B. To discuss characteristics and capabilities of vocational evaluation tools (VEWAA).

C. To discuss the use of occupational information in vocational evaluation and potential sources of information.

D. To discuss behavior identification and analysis models and techniques and to provide experiential component.

E. To present for discussion, current trends and issues in vocational evaluation (i.e., certification, rehabilitation engineering, independent living, C.A.R.F.).

10. Course contains new knowledge based on RTC research findings. Yes.

A. R-39 "A Client Referral Inventory Services Delivery" - RTC #22, UW-Stout.

B. R-47 "Estimation of the Development of Personal-Social, Vocational and Independent Living Capacities of Vocational Evaluation and Adjustment Clients" - RTC #22, University of Wisconsin-Stout.

C. R-37 "A Study of the Vocational Decision-Making Skills of Vocational Evaluation Clients" - RTC #22, University of Wisconsin-Stout.

D. R-38 "The Effects of Vocational Evaluation on the Rehabilitation Client and Counselor" - RTC #22, University of Wisconsin-Stout.

E. R-41 "The Point Sampling Approach to Assessing and Monitoring Behavior in Adjustment Services" - RTC #22, University of Wisconsin-Stout.

F. R-44 "Vocational Evaluation Services: A Systems Approach" - RTC #22.

G. R-142 "Human Engineering Factors Related to Disabilities: Use in Vocational Rehabilitation - RTC #9, George Washington University.

H. R-165 "Project De-institutionalization: Using Extended Evaluation to Enable Institutionalized Severely Developmentally Persons to Demonstrate Their Vocational Rehabilitation Potential" - RTC #11, University of Wisconsin.

I. R-196 "Program Evaluation and Planning (Tools for Rehabilitation)" - RTC # 15, West Virginia University.

J. R-197 "Analyzing Performance Competencies of Severely Handicapped Clients" - RTC #16, University of Oregon.

K. R-213 "Utilization of the Social and Prevocational Information Battery" - RTC #16, University of Oregon.

L. R-256 "Models for Services to the Severely Handicapped" - RTC #21, Texas Tech University.

M. Selected monographs from RTC #25, Boston University.

11. Course Evaluation

Training evaluation consisted of a two-part process which consisted of: a) training unit evaluations by participants, and b) attainment of participant objectives regarding the training program.

Training unit evaluations which rate each unit on a 5 point scale (5 being above average) and include content, presentation and presenter averaged 4.8.

Participants rated their personal, professional objectives for participation being met at a rate of 98%.

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(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-165

1. Proposed X Conducted Continuing

2. Title 7th Institute on Rehabilitation Issues, Interpreter Services for the Rehabilitation Counselor, San Antonio, Texas, June 2-5, 1980

3. Hours per day 7 No. of days 3 Credit Available: Yes No X

4. Course: Univ Curriculum Intern/Residency Cont Ed/Inservice X Other

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes X No

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	12,900	5,000	22,000	39,900
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	32,000			32,000
Totals	44,900	5,000	22,000	71,900
Percent	62%	7%	31%	100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Administrators/Supervisors	65
Counselors	47
Facility Specialists	10
Program Specialists	20
Educators	10
Other	15

Male 99 Female 68

Max. No. Trainees Proposed Total Trainees Conducted 167

Total Minorities 12

By Type: Puerto Rican 3 Asian-American 1 Black 6 Gypsy
American Indian Chicano 2 Cuban Other

8. Instructors

Daniel C. McAlees, Ph.D.	Rehabilitation Counseling
David W. Corthell, Ed.D.	Rehabilitation Counseling

9. Description and Objectives

Description - The Research and Training Center served as University sponsor for the Institute on Rehabilitation Issues (IRI) study group. The IRI is a cooperative enterprise of the state vocational rehabilitation agencies, NIHR, the Rehabilitation Service Administration, the vocationally oriented research and training centers, and the Council of State Administrators of Vocational Rehabilitation. The purpose of the IRI is to study prominent issues in the field of vocational rehabilitation and to prepare documents related to those issues containing information that would advance practice in vocational rehabilitation.

Objectives

A. To identify content areas and issues in vocational rehabilitation where training materials are needed.

2. To develop training materials in priority areas.

During 1980, Research and Training Center staff sponsored a study group which addressed the subject of the use of interpreter services by rehabilitation counselors to better serve persons who are hearing handicapped. The group sought to develop a resource document that would identify the most appropriate utilization of interpreter services and recommend practices that would facilitate their optimum use by rehabilitation counselors.

The study was made by individuals in the public and private sectors of vocational rehabilitation who were selected on the basis of expertise in the topic. Two meetings were held by the Prime Study Group in the process of developing materials for the document and a preliminary document was presented to knowledgeable practitioners for critique at the Annual Meeting, final revisions were made to the document materials in preparation for printing. The printed documents will be distributed to a readership within general vocational rehabilitation facilities, other research and training centers, continuing education centers, and rehabilitation counseling programs.

10. Course contains new knowledge based on RTC research findings. Yes.

The document developed contains sections related to the mission areas of the Research and Training Center and drew upon materials developed by staff of the RTC and by others in the Stout Vocational Rehabilitation Institute.

Prime Study Group II Members:

James H. Hanson (Chairperson)
David W. Corthell (Served as RTC Coordinator for the Prime Study Group)
Richard Dirst

Daniel McAlees
Fran Herrington
Ralph White
Lou Ann Simpson
John Victory
Edna Adler
James Dixon
Robert Sanderson
Richard K. Johnson

Ex-Officio Members

Willman Massie
Jean McCorry (General IRI Chairperson)

11. Course Evaluation

Content of the end document was evaluated by members of the IRI group and ultimate evaluation will vary with how useful the document is in the field.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-166

1. ___ Proposed X Conducted ___ Continuing

2. Title Stout Vocational Rehabilitation Institute Pre-Conference Training Program, Menomonie, WI, October 9, 1980

3. Hours per day 8 No. of days 1 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes ___ No X

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	968	176		1,144
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	184			184
Totals	1,152	176		1,328
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Rehabilitation Counselors	10
Vocational Evaluators	32
Adjustment Specialists	12
Placement Specialists	5
Rehabilitation Services Coordinators	10
Administrators	10
Production Managers	8

Male 48 Female 39

Max. No. Trainees Proposed ___ Total Trainees Conducted 87

Total Minorities 6

By Type: Puerto Rican ___ Asian-American 4 Black 1 Gypsy ___
American Indian ___ Chicano 1 Cuban ___ Other ___

8. Instructors

Wm. Johnson, M.S.	Audiovisual Communications
Wm. Stewart, M.S.	Education and Human Services
Darrell Coffey, Ed.D.	Rehabilitation Services Education
Colleen Esser, M.S.	Rehabilitation Services

9. Description and Objectives

Description - This training program was conducted to present current trends and issues pertinent to the delivery of vocational evaluation, adjustment and job placement services to the disabled.

Objectives -

A. To present information and resources relating to rehabilitation engineering and its implications for rehabilitation service delivery.

B. To present "program evaluation" considerations and guidelines for vocational evaluation, adjustment and job placement.

C. To present professional, technical, legal and ethical considerations relating to "expert vocational witnessing."

D. To provide instruction in the use and application of the Dictionary of Occupational Titles - 4th Edition, in the vocational rehabilitation process.

E. To present procedures, guidelines and resources for job re-engineering, restructuring and modification in the vocational rehabilitation process.

10. Course contains no new knowledge based on RTC research findings, however, some curriculum materials were drawn from literature reviews conducted in conjunction with the development of new research proposals.

11. Course Evaluation

Evaluation of these sessions consisted only of verbal feedback which was almost without exception "extremely positive," as an aid in professional growth and development of rehabilitation practitioners.

(Revised March 1980)

TRAINING PROJECT REPORT

Project No. T-167

1. ____ Proposed X Conducted ____ Continuing

2. Title Job Placement and Job Readiness for JPD of Wisconsin, May, 1980 Rehabilitation Association in Madison, Wisconsin

3. Hours per day 3 No. of days 1 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes X No ____

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	363	66		429
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	69			69
Totals	432	66		498
Percent	87%	13%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Job Placement Specialists	15
Vocational Rehabilitation Counselors	18
Vocational Educators	7

Male 25 Female 15

Max. No. Trainees Proposed ______ Total Trainees Conducted 40

Total Minorities 5

By Type: Puerto Rican ______ Asian-American ______ Black 3 Gypsy ______

American Indian ______ Chicano 2 Cuban ______ Other ______

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8. Instructor

Dar l Coffey, Ed.D.   Rehabilitation Services

9. Description and Objectives

Description -

Session attracted members of the Job Placement Division (Wisconsin Rehabilitation Association) and the course was offered concurrently with other training sessions.

Objectives -

A. To relate client (job) readiness to labor market participation.

B. Observe different techniques in simulation.

C. Discuss application of techniques.

10. Course contained new knowledge based on RTC research findings. Yes.

Human Resources Center, Albertson, New York 11507

Modular Placement Training Program, 1977.

Dun , D.J., Placement Services in the Vocational Rehabilitation Program, University of Wisconsin-Stout, Menomonie, Wisconsin, 1974.

Course Evaluation

Course evaluation was totally subjective due to the brief nature of the presentation. Evaluation comments and general reactions were good.

TRAINING PROJECT REPORT

Project No. T-169

1. ____ Proposed X Conducted ____ Continuing

2. Title Counselor Utilization of Vocational Evaluation Services and Psychological Assessment, Denver, Colorado, September 9-12, 1980

3. Hours per day 8 No. of days 3 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes X No ____

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	2,904	528		3,432
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	552			552
Totals	3,456	528		3,984
Percent	87%	13%		100%

7. Disciplines of Trainee(s): No. of Trainees

Vocational Rehabilitation Counselors 42

Male 35 Female 7

Max. No. Trainees Proposed 40 Total Trainees Conducted 42

Total Minorities 4

By Type: Puerto Rican ____ Asian-American ____ Black 1 Gypsy ____

American Indian 1 Chicano 2 Cuban ____ Other ____

8. Instructors

Tom Modahl, Ed.D.	Rehabilitation Counselor Education
Wm. Stewart, M.S.	Education and Human Services

9. Description and Objectives

Description - This workshop was conducted in cooperation with Region VIII R.C.E.P. - University of Northern Colorado-Greeley, and was intended for state vocational rehabilitation counselors. The purpose was to increase their knowledge of vocational evaluation services and thereby become more effective consumers. One special focus was on psychological assessment with the handicapped and its implications for the development of the I.W.R.P.

Objectives -

A. Present definitions and descriptions of vocational evaluation services as well as philosophical basis for these services.

B. Describe the vocational evaluation process, tools, etc. and the counselor's role in the process.

C. Present guidelines for assessing effectiveness and efficiency of vocational evaluation services.

D. Discuss trends and issues in vocational evaluation services.

E. Discuss role of "psychological assessment of handicapped" clients in the counselor/client decision-making process.

F. Provide informational resources for counselors regarding utilization of vocational evaluation services.

10. Course contains new knowledged based on RTC research findings. Yes.

Many of the materials were taken from existing RTC materials and also from research projects # R-26, R-39, R-37, R-38, and R-44.

11. Course Evaluation

Course evaluation was done using a generic evaluation covering course content and presentation of material.

Feedback indicated good acceptance of the program and suggested that more time be spent on "trends and issues in vocational rehabilitation."

TRAINING PROJECT REPORT

Project No. T-156

1. [✓ X] Proposed ___ Conducted ___ Continuing

2. Title Floor Supervisor Training

3. Hours per day 6 No. of days 3 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	2,178	396		2,574
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	414			414
Totals	2,592			2,988
Percent	86%	14%		100%

7. Disciplines of Trainee(s): No. of Trainees

Floor Supervisors

Male ___ Female ___

Max. No. Trainees Proposed 30 Total Trainees Conducted ___

Total Minorities ___

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___
American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Darrell Coffey, Ed.D.	Rehabilitation Services Education
Wm. C. Stewart, M.S.	Education and Human Services
Colleen Esser, M.S.	Vocational Rehabilitation
Wm. F. Johnson	Audiovisual Communication
Dotti Rottier, M.S.	Vocational Rehabilitation

9. Description and Objectives

Description - Adequate training of floor supervisors is becoming more recognized in rehabilitation workshops. This group of practitioners has the most direct contact hours with the client; therefore, they often have the most direct effect on a client's progress.

Floor supervisors have two major areas of importance: rehabilitation of clients and meeting production demands. Training which strengthens skills in both areas will potentially benefit all clients.

Objectives - The overall objective of this workshop is to meet the needs for basic training of floor supervisors employed in a variety of rehabilitation settings. Participants will acquire a range of knowledge and skills related to the functioning of a floor supervisor. This training program will emphasize the use of discussion, role-playing, and hands-on exercises as the principal means of instruction. Content for the course is designed to provide awareness levels in key areas and develop a foundation for further follow-up workshops.

Objectives of the trainer include:

A. Present aspects of the rehabilitation process, specifically the purpose and role of workshops, the relationship with State Vocational Rehabilitation agencies, the goals and purposes of various facility programs, and the role of the Commission on Accreditation of Rehabilitation Facilities.

B. Provide an opportunity for participants to review individual job descriptions and duties. The role of the floor supervisor will then be discussed in regard to the rehabilitation process.

C. Provide basic information concerning various disabilities, along with discussion of stereotypes and myths often associated with these disabilities.

D. Present principles of motion economy, work simplification, techniques for setting up work stations and utilizing task analyses. Provide experiential exercise to build participants' skills in each area.

E. Outline techniques of training clients and provide activities to increase training/teaching skills.

F. Present an approach to analysis of work performance problems, to include information and observing and recording and behavior rating scales.

G. Provide exercises to emphasize the importance of communication skills for the floor supervisors.

H. Discuss methods to improve each participants' performance as a floor supervisor. Assist individuals in designing a personal behavior change program to implement upon returning to their jobs.

10. Course contains no new knowledge based on RTC research findings. However, Seattle University's training program for floor supervisors served as a useful resource.

11. Course Evaluation

A pre and post-training assessment device (pertaining to workshop content) will be administered, along with an RTC evaluation form.

TRAINING PROJECT REPORT

Project No. T-158

1. X Proposed ___ Conducted ___ Continuing

2. Title Job Placement Services in Vocational Rehabilitation

3. Hours per day 8 No. of days 3 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	2,904	528		3,432
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	552			552
Totals	3,456	528		3,984
Percent	86%	14%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
V.R. Facility Placement Specialists	
Adjustment Services Specialists	
State V.R. Agency Placement Personnel	
Special Needs Personnel - Secondary & Post-secondary School Settings	
Placement Personnel from other Public Agencies (CETA, V.A., Job Services, Etc.)	

Male ___ Female ___

Max. No. Trainees Proposed 30 Total Trainees Conducted ___

Total Minorities ___

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___

American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Dorothy Rottier, M.S.	Rehabilitation Services
Darrell Coffey, Ed.D.	Rehabilitation Services Education
William Stewart, M.S.	Education and Human Services
Colleen Esser, M.S.	Rehabilitation Services

9. Description and Objectives

Description - The Research and Training Center's mission was expanded during the past year to include the mandate to conduct research and provide training in the area of Job Placement. Since the ultimate goal of the vocational rehabilitation process is to assist disabled individuals to achieve their highest vocational potential, it is essential that vocational rehabilitation personnel be knowledgeable of and skillful in the job placement process.

The content of this workshop will include theories and models of job placement services as well as new information and research findings generated by the RTC research activities.

The proposed training program would provide participants with an overview of the many essential components of successful placement activities through lecture, audiovisual presentations, and printed materials. It would also provide an opportunity for participants to improve their own personnel skills through use of group exercises, role playing activities, etc.

Objectives - Specific objectives for this workshop are as follows:

A. To present an overview of the placement process and its relationship with other vocational rehabilitation services.

B. To define terms common to the labor market in general and the placement process specifically.

C. To discuss workers with disabilities and implications for placement services.

D. To provide experience in individualized placement planning.

E. To discuss the Career Development Process and its relationship to placement services.

F. To define job readiness training and its role in the placement process.

G. To present concepts and methods of job development, restructuring, and modification.

H. To discuss concepts of rehabilitation engineering and implications for placement.

I. To provide practical ideas, methods, and techniques for working with employers.

J. To discuss legislation relevant to the placement process.

K. To provide experience in development of job seeking skills curriculum.

L. To discuss critical ancillary aspects of the placement process, e.g. follow-up activities, job analysis, employer awareness.

10. Course will integrate and disseminate new knowledge based on RTC research activities.

11. Course Evaluation

A pre and post-training device based on workshop objectives will be administered. In addition, the RTC training evaluation form will be administered.

TRAINING PROJECT REPORT

Project No. T-168

1. X Proposed ___ Conducted ___ Continuing

2. Title Rehabilitation Engineering Resources/Job Redesign and Restructuring

3. Hours per day 8 No. of days 2 Credit Available: Yes ___ No X

4. Course: Univ Curriculum ___ Intern/Residency ___ Cont Ed/Inservice X Other ___

5. Number of times offered (or to be) during year 1
To be repeated next year: Yes X No ___

6. Financial Data:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	1,936	352		2,288
Other Costs (Supplies, course development, training aids, printing, indirect costs, travel, etc.)	368			368
Totals	2,304	352		2,656
Percent	86%	14%		100%

7. Disciplines of Trainee(s):

Disciplines of Trainee(s)	No. of Trainees
Vocational Evaluators	
Adjustment Specialists	
Skill Trainers	
Placement Personnel	
Floor Supervisors	
Rehabilitation Counselors	

Male ___ Female ___

Max. No. Trainees Proposed 40 Total Trainees Conducted ___

Total Minorities ___

By Type: Puerto Rican ___ Asian-American ___ Black ___ Gypsy ___

American Indian ___ Chicano ___ Cuban ___ Other ___

8. Instructors

Wm. Johnson, M.S.	Audiovisual Communications
Jeff Annis, M.S.	Vocational Rehabilitation Services
Ricardo Cerna, M.S.	Vocational Rehabilitation Services

9. Description and Objectives

Description - This special training program has been developed for rehabilitation facility personnel involved in evaluation services, adjustment services, training sheltered workshop programs or other programs where evaluation tools or existing tools, machines, and workplace design present barriers to the vocational development of persons with severe or specialized disabilities.

Objectives:

A. Obtain a working definition as well as goals and objectives of rehabilitation engineering.

B. Be knowledgeable of the orgins and historical development of rehabilitation engineering.

C. Gain an understanding of the biomechanical approach, its origins and design.

D. Understand the relationship of current rehabilitation engineering to the 1973 Rehabilitation Act.

E. Obtain an overview of rehabilitation engineering services as they effect a client's overall rehabilitation process (medical and vocational).

F. Understand how rehabilitation engineering fits into the vocational evaluation process.

G. Be able to compare and delineate the various fields of engineering leading to rehabilitation engineering.

H. Be aware of the many resources to rehabilitation engineering in terms of information, products, and services.

I. Understand the functioning of Rehabilitation Engineering Centers.

J. Understand basic ergonomic considerations for work site designs.

K. Understand the relationship of ergonomic designs and techniques and rehabilitation engineering.

L. Be aware of at least two step-by-step processes of job site/work sample design or modification.

M. Successfully complete the plans for a modification of one of three (Valpar, Singer, JEVS) work sample components given a hypothetical case of one of three blind/deaf, severe M.R. or mutiply handicapped clients (by choice).

N. Generate plans for adapting evaluation tools within the participant's individual facilities which concern their individual client types and production/evaluation processes.

10. Materials for the development of this program were gathered from the following sources:

Rehabilitation Engineering Centers

Rehabilitation Engineering Center
Rancho Los Amigo Hospital
7601 East Imperial Highway
Downey, CA 90243

Rehabilitation Engineering Center
Children's Hospital at Sanford
520 Willow Road
Pal Alto, CA 94034

Rehabilitation Engineering Center
Smith-Kettlewell Institute of Visual Sciences
2232 Western Street
San Francisco, CA 94115

Rehabilitation Engineering Center
Northwestern University
345 East Superior Street
Room 1441
Chicago, IL 60611

Rehabilitation Engineering Center
University of Iowa
Orthopedics Department
Dill Children's Hospital
Iowa City, IA 52242

Rehabilitation Engineering Center
Cerebral Palsy Research Foundation
4320 East Kellogg Street
Wichita, KS 67218

Rehabilitation Engineering Center
Children's Hospital Medical Center
300 Longwood Avenue
Boston, MA 02115

Rehabilitation Engineering Center
University of Michigan
225 West Engineering
Ann Arbor, MI 48109

Rehabilitation Engineering Center
Case Western Reserve University
2219 Adelbert Road
Cleveland, OH 44106

Rehabilitation Engineering Center
Krusen Research Center
Moss Rehabilitation Hospital
12th Street & Tabor Road
Philadelphia, PA 19141

Rehabilitation Engineering Center
University of Tennessee
1248 La Paloma Street
Memphis, TN 38114

Rehabilitation Engineering Center
Texas Institute for Rehabilitation Research
1333 Moursand Avenue
Houston, TX 77025

IMPART Problem Solving and Demonstration Center
Charles J. Laenger, Sr.
Bexar County Easter Seal Center
2203 Babcock Road
San Antonio, TX 78229

Southwest Research Institute
Applied Rehabilitation Engineering Center
8500 Culebra Road
P.O. Drawer 28510
San Antonio, TX 78284

Rehabilitation Engineering Center
University of Virginia
P.O. Box 3368
University Station
Charlottesville, VA 22903

Publications

Accessibility Assistance (Consultants Directory), National Center for Barrier Free Environment, Seventh and Florida NE, Washington, DC 20002.

American Rehabilitation, March-April Issue 1977, Vol. 2,4.

Applied Ergonomics Handbook, Reprints from Applied Ergonomics, Vol. 1, Nos. 105, and Vo. 2, Nos. 1-3, IPC Science and Technology Press Ltd., Richmond, Surrey, England, 1974.

Bazar, Andy R. Ergonomics in Rehabilitation Engineering, Wichita: Cerebral Palsy Research Foundation of Kansas, 1978.

Communication Outlook, Artificial Language Laboratory, Computer Science Dept., Michigan State University, East Lansing, MI 48824.

Decker, Roger W. Mobile Homes: Alternative Housing for the Handicapped, Laurinburg: St. Andrews Presbyterian College (funded by U.S. Department of Housing and Urban Development), 1977.

Golden, Robert M., Jerome R. Dunham, and Chalis S. Dunham (Eds.). Disability and Rehabilitation Handbook, New York: McGraw-Hill Book Company, 1978.

Goldsmith, Selwyn. Designing for the Disabled, London: RIBA Publications, Ltd., 1976.

Grandjean, E., Fitting the Task to the Man, London: Taylor and Francis Ltd., London, 1969.

Greenberg, Leo and Don B. Chaffin, Workers and Their Tools, Pendell Publishing Co., Midland, MI.

High, E.C., "A Resource Guide to Habilitative Techniques and Aids." Job Development Laboratory, The George Washington University, 2300 Eye Street NW, Room 420, Washington, D.C. 20037.

International Guide to Aids and Appliances for Blind and Visually Impaired Persons, American Foundation for the Blind, Inc., 15 West 16th Street, New York, NY 10011.

Job Development and Enhanced Productivity for Severely Disabled Persons, Final Report, RSA Grant #16-P-5680313, (RT-9, George Washington University, Washington, DC, July 1979.

Konz, Stephan, Work Design, Grid Publishing Inc., Columbus, Ohio, 1979.

Mallik, K. & Sablowsky, Ruth, "Model for Placement," Job Rehabilitation 41, 6, 1975. Describes the client placement model used in Job Development Laboratory at George Washington University.

McCormack, Ernest J., Human Factors in Engineering and Design, McGraw-Hill Book Company, New York, 1976.

Michigan Center for a Barrier Free Environment. Barrier Free Design Equipment and Aids Catalog, West Bloomfield, Michigan: Michigan Center for a Barrier Free Environment, 1979.

Rehabilitation Engineering Sourcebook, Institute for Information Studies, 400 N. Washington St., Falls Church, VA 22046.

Suazo, Antonio C. Job Redesign, Washington, D.C.: Goodwill Industries of America, 1974.

Tech Brief, The cerebral Palsy Research Foundation of Kansas and Rehabilitation Engineering Center, Wichita State University, Wichita, Kansas.

Texas Tech University. Human Rehabilitation Techniques, Vol. II, Springfield, Virginia: National Technical Information System, 1977.

Tichauer, E.R., "Industrial engineering in the rehabilitation of the handicapped," The Journal of Industrial Engineering, February, 1968.

Trombly, Catherine Anne and Anna Deane Scott. Occupational Therapy for Physical Dysfunction, Baltimore, Maryland: The Williams and Wilkins Company, 1977.

11. Course Evaluation

Evaluation will consist of a pre/post objective test and the "RTC #22 Training Evaluation Form."

CURRICULUM DEVELOPMENT PROJECT REPORT Project No. TC-5

1. TITLE. Selected Aspects of Adjustment Services Training

2. PROJECT STATUS: Proposed

3. PROJECT DATES: Beginning - January 1981
Expected Completion - December 1981

4. PERSONNEL:

Darrell Coffey, Ed.D.	Rehabilitation Services Education
Wm. Stewart, M.S.	Education and Human Services
Colleen Esser, M.S.	Rehabilitation Services
Bill Johnson, M.S.	Audiovisual Communications
Dotti Rottier, M.S.	Rehabilitation Services

5. FINANCIAL DATA

Estimated cost from beginning to end of project:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	7,000			7,000
Other Costs (Equipment, Supplies, Travel, Consultants, Miscellaneous)	1,000			1,000
Totals	8,000			8,000
Percent	100%			100%

List Others:

B. Develop training outlines, training materials, bibliographies and secure relevant media for use in training of above topics.

C. Combine all materials into a "trainers'manual" for use by RT-22 staff and adjunct faculty.

8. Methodology

RTC training staff will develop a schedule for "brainstorming" trainer objectives (after having had a chance to review pertinent literature and existing materials). Following the development of objectives, the coordinator (person named following unit) will develop appropriate outlines, bibliographies, media lists, and other pertinent training material for submission to the entire training staff for revisions and final approval.

9. Relevance of the Problem to Rehabilitation

These projects will be designed to upgrade the short-term training offerings to practitioners who provide "adjustment services" to clients, based on new knowledge and information.

10. Client Characteristics

Not applicable.

11. Current Year's Activities

Activities to date include a review of research and training needs assessments in adjustment services and the development of topics and assignment of coordinating personnel.

12. Dissemination of Findings

Dissemination will be in the form of a "trainers'manual" for use by RTC staff and adjunct faculty in presenting training program offerings to "adjustment services practitioners."

13. Utilization of Findings

The information will be used by rehabilitation facility personnel and other professionals for use in service delivery and program planning and evaluation.

14. Policy, Program, or Practice Changes

The results of this curriculum development will improve and update instruction and thus enhance "adjustment services" offered by rehabilitation facilities.

6. Statement of the Problem

Currently, there is an increasing emphasis on the delivery of "adjustment services" in rehabilitation facilities. Research has assisted in more clearly defining the role of adjustment services personnel and also clarifying the specific goals and objectives they pursue with their clients.

This increased degree of specificity relating to "adjustment services" necessitates refinement of curricular materials used in short-term training with these practitioners.

7. Objectives

A. Develop trainer/unit objectives for the following units that are projected for inclusion in adjustment services training:

1. "Individualized Adjustment Planning/Goal Planning" - C. Esser - 20 hours.
2. "Rehabilitation and the Disabled: Professional Attitudes Toward Disabled/Disadvantaged" - D. Rottier - 40 hours.
3. "Behavior Management: Development of Intervention Strategies" - D. Coffey - 60 hours.
4. "Tools of Work Adjustment" - D. Rottier - 60 hours.
5. "Behavioral Counseling/Group Processes" - W. Stewart - 20 hours.
6. "Behavior Identification and Analysis Methods" - B. Johnson - 20 hours.
7. "Production/Industrial Operations in Rehabilitation Facilities" - D. Rottier - 80 hours.
8. "Independent Living Assessment and Training" - D. Rottier - 40 hours.
9. "Family/Social/Sexual Dynamics in Adjustment Services" - W. Stewart - 20 hours.
10. "Overview of Placement Services and Relationship to Adjustment Services" - C. Esser - 40 hours.
11. "Occupational Information in Adjustment Services" - B. Johnson - 10 hours.
12. "Job/Task Analysis in Adjustment Services" - W. Stewart - 10 hours.
13. "Professional Communications in Adjustment Services" - D. Coffey - 10 hours.
14. "Trends/Issues in Adjustment Services" - D. Rottier - 30 hours.
15. "Professional Growth and Development for Adjustment Specialists" - B. Johnson - 10 hours.

CURRICULUM DEVELOPMENT PROJECT REPORT Project No. TC-6

1. TITLE: Counselor Utilization of Vocational Evaluation Services

2. PROJECT STATUS: Proposed/Continuing

3. PROJECT DATES: Begininning - June, 1980
   Expected Completion - June, 1982

4. PERSONNEL:

Tom Modahl, Ed.D.	Rehabilitation Counselor Education
W. Stewart, M.S.	Education and Human Services

5. FINANCIAL DATA

Estimated cost from beginning to end of project:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	4,028			4,028
Other Costs (Equipment, Supplies, Travel, Consultants, Miscellaneous)	1,000			1,000
Totals	5,028			5,028
Percent	100%			100%

List Others:

*RTC funds expended to date

$1,028 - contract personnel

6. Statement of the Problem

The influx of more severely disabled person into the vocational rehabilitation system has necessitated that vocational assessment as a prerequisite to service provision, become more sophisticated and comprehensive. This factor has brought us to the point that for more and more of our clients, the traditional interviewing, counseling and psychometric/diagnostic techniques are becoming less and less adequate in terms of developing the I.W.R.P.

This trend has necissitated the increased use by vocational rehabilitation counselors of "comprehensive vocational evaluation services." Vocational evaluation is a changing process with more and more technology and capabilities being added daily. It is for this reason that the consumers of these services must become more knowledgeable and involved regarding these processes so as to effect positive outcomes with clients.

7. Objectives

A. Survey vocational rehabilitation counselors to ascertain current knowledge regarding vocational evaluation process/technology.

B. Develop training outlines/goals and objectives/materials.

C. Field test training materials.

D. Develop a training manual for dissemination.

8 Methodology

Conduct needs assessment, review of literature, development of goals/objectives and training materials using contract personnel. Upon completion, the training manual would be disseminated.

9 Relevance of the Problem to Rehabilitation

If specific rehabilitation services such as vocational evaluation are to be purchased and utilized effectively by vocational rehabilitation counselors, it is imperative that they have knowledge of the process and are aware of the involvement necessary on their part to insure its cost/effectiveness.

Currently, it would appear that there is little being done on a pre-service, in-service or short-term training level to insure effective utilization of vocational evaluation.

10. Client Characteristics

Not applicable.

11. Current Year's Activities

To date, work has been done with several R.C.E.P.'s (V and VIII) to a certain counselor needs. Tentative curricula have been developed and field-tested on a minimal basis as short-term training.

12. Dissemination of Findings

Dissemination to date consists of two short-term (two-day) workshops for vocational rehabilitation counselors regarding "utilization of vocational evaluation services."

Final dissemination will be in the form of a training manual that will be disseminated (see #'s 7 and 8 above).

13. Utilization of Findings

Findings will be embodied in the training manual that is created, which will lead to increased knowledge by vocational rehabilitation counselors of vocational evaluation services and thus, hopefully lead to improved vocational rehabilitation outcomes with clients based on improved data.

CURRICULUM DEVELOPMENT PROJECT REPORT

Project No. TC-7

1. TITLE: Vocational Evaluation in School Settings Training Manual

2. PROJECT STATUS: Proposed/Continuing

3. PROJECT DATES: Beginning - June, 1980
Expected Completion - June, 1982

4. PERSONNEL:

A. J. Langton, M.S.	Vocational Evaluation
W. Stewart, M.S.	Education and Human Services

5. FINANCIAL DATA

Estimated cost from beginning to end of project:

Item	Annual Cost in Dollars			
	RT-Funds	Univ. Funds	Others	Total
Personnel Costs	3,900			3,900
Other Costs (Equipment, Supplies, Travel, Consultants, Miscellaneous)	1,000			1,000
Totals	4,900			4,900
Percent	100%			100%

List Others:

*RTC funds expended to date on

$1,900 - contract personnel

6. Statement of Problem

Current emphasis in educational settings (i.e., P.L. 94-142, etc.) has brought forth the need for schools to develop more comprehensive vocational assessment strategies and technology.

Present pre-service instruction available for educators which would develop the necessary competencies are either lacking or non-existent.

It is for these reasons that a training manual for use with educators in pre-service, in-service and/or short-term training, regarding the delivery of vocational assessment services is deemed as a priority.

7. Objectives

A. Conduct needs assessment survey with educators presently responsible for providing vocational assessment services to develop a job analysis and subsequent list of competencies necessary to job performance.

B. Develop training curriculums, objectives and materials.

C. Field test instruction and modify.

D. Construct a training manual for dissemination.

8. Methodology

The needs assessment, development of educator task statements regarding vocational assessment, review of literature (state-of-the art and construction of a transportable training manual are the goals of this project.

Specific objectives will be accomplished (see #7 above) by RTC staff and contracted personnel.

9. Relevance of the Problem to Rehabilitation

As a great number of adolescent students with "special needs" enter the vocational rehabiliation service delivery system, training personnel to work with these potential clients, will in some cases serve as "preventive rehabilitation" and/or provide a firm base for vocational rehabilitation services by providing "developmental" activities, assessment and training at a more appropriate time in the individual's development.

With financial resources of vocational rehabilitation agencies dwindling, these "similar benefits" approaches will become more crucial.

10. Client Characteristics

Not applicable.

11. Current Year's Activities

During the past year the above mentioned needs assessment was conducted based on the involved educational personnel's job analyses.

Work has begun on the development of an agenda and goals and objectives. Materials for training have begun to be collected and field testing of training has been started.

12. Dissemination of Findings

Dissemination to this point consists of field-testing of training programs. Upon completion of the manual, it will be made available to interested professionals involved in pre-service, in-service, and/or short-term training with educators whose responsibilities include providing vocational evaluation/assessment.

13. Utilization of Findings

See #12 above.

14. Policy, Program, or Practice Changes

The development of this manual will greatly enhance the professional preparation of vocational evalautors in school settings and thus provide direct benefits to student/clients.

3

COOPERATIVE RELATIONSHIPS

COOPERATIVE RELATIONSHIPS WITH PUBLIC AND VOLUNTARY AGENCIES

a. Intra and Interdepartmental Cooperative Relationships

Significant accomplishments have been achieved in the area of intra-institute cooperation and coordination since the reorganization of the RTC. In addition to the RTC, other NIHR/RSA funded projects within the Institute are the Materials Development Center (MDC), and the Department of Vocational Rehabilitation Education, which offers instruction to the undergraduate program in vocational rehabilitation and to the graduate program with specialties in Vocational Evaluation and Work Adjustment. In addition, the Institute houses the Vocational Development Center, a facility which provides Vocational Evaluation/exploration and job readiness training services to state vocational rehabilitation clients and other referral agencies. In 1981 the Center was awarded a grant "Program for Independent Living" which will provide independent living services to rural areas.

The fact that these programs are within the Institute provides an excellent setting for productive and cost-effective cooperation and collaboration in such activities as research, training, and information dissemination. Current and projected cooperation between the RTC and other programs within the Institute has taken many forms.

The dissemination efforts of the RTC have been greatly enhanced by its relationship with the Materials Development Center. Because of its dissemination mission, the MDC has developed the nation's most extensive mailing list of rehabilitation facilities, related agencies, and individuals. This mailing list has been made available to the Research and Training Center for its use in research and training activities. In addition, MDC, through its newsletter, is able to make more than 7,000 appropriate rehabilitation workers aware of research publications and training opportunities available from the RTC. Further, RTC training staff now sit in on MDC planning meetings and, where feasible, staff from both Centers work together in developing training materials. For example, a joint effort is now in progress developing a slide tape series on using the DOT and a special form for client program planning, client program monitoring, staff decision-making, and information reporting. In addition, the RTC incorporates into its training program products of the MDC development unit. It is also anticipated that MDC and RTC staff will collaborate on certain developmental projects, research projects to identify needs within facilities, and that other cost effective and program enhancement cooperative efforts will be implemented in the area of dissemination and staff sharing (e.g., exploration is underway regarding joint funding of special projects and staffing needs). The MDC has as its mission the collection, development, and dissemination of techniques and hardware in the areas of vocational evaluation and work adjustment. Since these two service areas are included within the mission of the RTC, the Directors of these two programs continually explore every potential for maximizing impact while minimizing cost.

Similar intra-Institute cooperative relationships have been developed and implemented with the graduate training program for vocational evaluators. Staff from the RTC are working with the education faculty in developing and integrating research competencies into the graduate program. Research and Training Center staff participate on both a long and short-term basis in instructional activities within the graduate and undergraduate curriculum, and faculty from the education program participate in the research and short-term training activities of the Center. In addition, selected graduate students who have had substantial prior field experience have the opportunity to serve as interns with the RTC. They are assigned to work with the training staff and used as assistants to the trainers and as small group leaders for in-service training programs. The RTC staff also serve as research advisors for selected students who are completing graduate degree requirements by conducting a research project which lies within the mission area of the RTC.

Intra-departmental cooperative relationships have also been developed with the Vocational Development Center and Independent Living Program. The VDC is available to the RTC as a research site when appropriate. In addition, staff from the VDC participate in the training and/or research activities of the RTC. Training materials developed by the RTC are tested, when feasible, with VDC staff and student interns for evaluation purposes. This relationship is mutually rewarding as (1) students, graduate program instructors, and VDC staff become familiar with new materials, and (2) RTC training materials are improved. The Vocational Development Center is also available as a practicum site for individual trainees participating in selected RTC short-term training programs. A final example of cooperative and facilitative intra-departmental relationships is the development of a research laboratory within the VDC which is supervised by staff from the RTC and utilized by students from the graduate training program.

The RTC is also participating in general activities of the Institute which involve all programs (e.g., active involvement in Handicapped Awareness Week, student chapters of professional associations, guest seminars, faculty governance committees, SVRI Annual Conference, etc.)

As noted above, a very positive atmosphere of intra-institute cooperative relationships exists which serves to strengthen and enhance the program activities of the RTC.

Similar progress has been achieved in the area of inter-departmental cooperation since the reorganization of the Center. An intra-university research review committee has been established which includes a senior research and evaluation specialist from the Center for Research and Educational Improvement; a representative from the Department of Education and Psychology; a representative from the University Counseling Center; a representative from the graduate program in Vocational Evaluation and Work Adjustment; a representative from the Department of Mathematics; and the Director of the Computer Center. The function of this committee is to review the status of research in progress and provide technical input for on-going and newly proposed research. A further mission of this committee is to judge proposed research on its scientific merit and its relationship to NIHR/RSA goals, the Center's research focus and current rehabilitation needs. The input of the committee is coordinated with that of the research subcommittee of the Advisory Council.

The research and training staff of the Center are also involved in other inter-university relationships such as teaching, university governance, and joint research concerns. For example, the RTC staff have taught a course on Research Foundations for the Psychology and Education Department. Students from the Vocational Rehabilitation Department typically take this course as part of their graduate program. RTC staff also are members of the following University committees: Salary Guidelines Committee, Academic Staff Rules and Regulations Committee, Committee on Extension Education, Memorials Committee, School of Education Department Chairmens Committee, School of Education Promotions Committee, School of Education Committee on Guidelines for Personnel Goverance, Undergraduate

Program Audit and Review Committee, and Advisory Commiitee for the Graduate Programs on Vocational Evaluation and Special Education.

In addition, mutual research concerns are being explored with the (1) Center for Research and Educational Improvement (CREI) to investigate pooling of resources for improvement of computer utilization and for sharing information and techniques on competency-based instruction; and the (2) Counseling Clinic for joint research or information Sharing on the techniques of biofeedback in control of pain, and counseling in general.

Similar inter-university activities are being developed by the training staff. For example, an effective working agreement has been entered into with the off-campus extension service through the Director of Continuing Education. Continuing Education units (CEUs) are now available for all trainees and individual records for these units will be maintained by and available from the Office of Continuing Education at the University of Wisconsin-Stout.

Negotiations have also been initiated between the training section and the School of Education and Human Services, Faculty from the School of Education and Human Services will train RTC staff in newly developed "simplified" training procedures and assist in developing this competency among RTC workshop participants who will be requested to "teach" co-workers upon return to their agencies. The School of Education and Human Services faculty will participate in the training and provide the necessary supportive instructional material.

Arrangements have also been made for the RTC training staff to provide presentations on the interface between Vocational Evaluation and Vocational Education to classes sponsored by the University's Division of Vocational Education. In addition, instructional development staff from the Department of Instructional Technical Services will review and serve as consultants to the training packages developed by the RTC. Conversations have also been initiated with the Departments of Business and Industrial Management and Special Education and joint planning for future cooperative efforts is underway. Finally, joint planning concerning telecommunication use and instruction is underway with the Department of Educational Psychology.

b. State Vocational Rehabilitation Agency Relationships

A significant relationship with the State Vocational Rehabilitation Agencies in Region V has been established by the RTC. Individual contacts have been made with the Directors and the appropriate facility and/or training specialist in each state. Arrangements have been made for Center staff to meet with these various representatives of the State agencies in order to identify specific interests and needs of their agencies.

At the present time, the State of Wisconsin DVR, specifically the Bureau of Program Planning, Evaluation and Development, is engaged either formally or informally in several work activities related to the utilization/provision/benefits derived from rehabilitation facility-purchased work evaluation and work adjustment services. Due to the Center's interest and responsibility in this area, it will be working closely with the Wisconsin DVR in a variety of ways.

For example, in their work with the Rehabilitation Facility Association, the agency is attempting to develop acceptable outcome measures related to all purchased services which could be used statewide to uniformally assess effectiveness of programs. The RTC staff will serve as resource consultants to this activity by assisting in literature reviews, materials development, data analysis, etc.

In addition, the Wisconsin DVR has been requested to provide information to the legislature during the current year on the question of purchase versus providing services. Once again the RTC staff will serve as resource consultants to the agency's work activities in this area.

Further, the Facility Section of the DVR has recently designed a form (DVR-85) and oriented facility/agency staff in its use which should enable the agency to collect longitudinal data related to clients receiving facility services. The agency will meet with RTC staff to determine implications of the data when it is available (R-40).

Staff from the RTC will also participate as members of a DVR work group which is developing alternative service delivery models which will very likely affect facility-provided services. Also, RTC staff serve on the Wisconsin DVR task-force on inter-agency cooperation and coordination.

Finally, as a result of RTC staff participation in the above and other related activities of the Wisconsin agency, the Center hopes to serve a significant role in assisting the agency to develop a statewide plan of service based upon assessment of need for serving clients in rehabilitation facilities. Although we are working with varied individuals on each of the above projects, all activities [illegible] the Center are coordinated through Mr. Ken McClarnon, Associate Director, Department of Vocational

Rehabilitation.

The RTC has also contacted the Minnesota Division of Vocational Rehabilitation regarding plans to conduct a research project (R-26) on factors influencing counselor determination of client eligibility and referral for facility services with the goal of integrating the research outcomes into future training programs for counselors within Minnesota and other state rehabilitation agencies. There are also three formal "cooperative facilities" in the State of Minnesota which work closely with the RTC and the R&T Center is serving in an advisory/consultative capacity to a joint project between the State of Minnesota DVR and Facilities Association in developing and implementing a statewide facilitie's evaluation plan.

A number of research projects (R-30), (R-38), (R-40) and training activities have been implemented in coordination with the Michigan Division of Vocational Rehabilitation and Michigan State University. In addition, there have been several meetings between personnel from the Michigan DVR and the RTC regarding the establishment of formal programs of research and training (demonstration) in a State DVR operated facility in Michigan which would be jointly sponsored by the Michigan DVR and the RTC.

Although specific projects are often conducted, for fiscal reasons, in only one state, it is expected that the outcomes of the various projects will be valuable to each state in our region and the Center will make every effort to meet with all appropriate personnel in each state as data becomes available, to ascertain their interest in using the outcomes of the study and possibly conducting similar projects within their own state.

The Advisory Council will also be used as a means of developing and strengthening relationships with State Vocational Rehabilitation agencies in Region V, VII, and VIII. With the development of the Advisory Council as a significant source of program input and evaluation for the Center, these relationships have taken on increased meaning and now serve as a two-way channel of communication. Mr. Richard Oestreich, former State Administrator for Ohio, is Chairman of the Advisory Council, and Mr. Pete Griswold, Jerry Starkweather, and Ken McClarnon, State Administrators for Michigan, Iowa, and Wisconsin, are also active participants. Facility specialists and appropriate program specialists from Minnesota and other State programs are also represented on the Council. In addition, Mr. Al Dickerson, State Director of Vocational Rehabilitation in Virginia and Chairman of the Sub-committee on Facilities for the Council of State Administrators of Vocational Rehabilitation, is a member of the Advisory Council. Mr. Pete Griswold, State Director of Michigan Vocational Rehabilitation and a member of the Advisory Council, is the Chairman of the Sub-Committee on Training of the Council of State Administrators of Vocational Rehabilitation. The identification of agency needs and Center resources to meet these needs has been greatly augmented because of the development of these working relationships.

These relationships have also been significantly enhanced as a result of the Center's increased emphasis on meeting the training needs of the State agencies. The primary focus of RTC training activities will be the interfacing of DVR counselors with rehabilitation facility services and personnel. Working with the Training Director of the Center, State agency representatives will participate in the planning process and determination of program content for training sessions, resulting in the maximum possible individualization of training to meet the needs of the staff who will be in attendence. Training programs are currently scheduled for every state in Region V. In addition, the Center will participate in other program activities requested by the State agencies.

In summary, it can be said that the RTC has actively sought to increase its working relationships with the various State Rehabilitation Agencies both in depth and breadth. Relationships that previously existed have been strengthened. New Relationships have been developed at the operational level and these are resulting in increased communication between Center staff and the staff of the State agencies.

c. Relationships with State Social Service Agencies

The primary focus of the Center is its relationship with State divisions of vocational rehabilitation and the workshops and facilities serving clients of these agencies. Close working relationships have been established with these agencies as described in (b) above and (e) below. Specific projects often involve clients and/or professional staff from various state social service agencies and RTC staff serve as consultants or board members for various social service agencies.

In cooperation with the Minnesota CETA Program, the Duluth Career Development Center, and the City of Duluth, the RTC provided consultation, conducted a training session and developed a program manual and training manual in Vocational Evaluation for CETA personnel in Minnesota. RT-22 has also participated in two planning meetings with instructors at the District #1 Vocational Technical and Adult School pertaining to the restructuring of current curriculum designs to meet the needs of mentally retarded adults now being "mainstreamed" through their various programs.

d. Relationships with the Regional Office.

A strong working relationship has been developed between the RTC and the Regional Office which is predicated on the commitment of the Center to be responsive and lend its expertise to meeting Regional Office needs. The RTC considers itself a partner to the Regional Office in meeting regional training and research needs which fall within the mission area of the Center.

The Center plans to conduct training programs within Region V at the request of the Regional Office and the staff will participate in all efforts directed by the Regional Office towards meeting regional needs. There is currently a continuous flow of information and advice between representatives of the University of Wisconsin-Stout Research and Training Center and the Region V Office of Rehabilitation Services as well as the various State Divisions of Vocational Rehabilitation. The Regional Office has been instrumental regarding planning leading to the reorganization of the Center policies, procedures, and relationships, and its effective utilization of the Advisory Council.

In addition to impacting on the RTC program and priorities through direct advice, consultation, and requests for specific program activities such as short-term training workshops, the Regional Office also participates in priority setting through the Advisory Council. A representative of the Regional Office serves on the Council and is active in program direction setting at that level.

e. Cooperative Efforts with Other Agencies and Facilities

A number of cooperative agreements exist between the RTC and other agencies and facilities. Examples of some of the different types of agreements are given below.

R-25 involved a joint effort with Auburn University, the National VEWAA Certification Committee, the University of Wisconsin-Stout RTC, and the National VEWAA Training Consortium (including training staff from Stout, West Virginia, and Arkansas RTC's, representatives from the Vocational Evaluation and Work Adjustment Association (VEWAA), the Association of Educators of Rehabilitation Facility Personnel (AERFP), Council of Rehabilitation Counselor Educator (CRCE), National Rehabilitation Counseling Association (NRCA), Association of Rehabilitation Facilities (ARF), Materials Development Center (MDC), the Vocational Evaluation Certification Committee, Region IV representatives of RSA, University of Arizona, Memphis State University, Cornell University, University of Georgia, University of Arkansas, University of Tennessee, Southern Illinois University, and North Texas State University). Members of this consortium met to "develop coordinated long-range planning for the training of rehabilitation service providers through performance-based training in rehabilitation." The Stout RTC Director of Training is a member of the National Steering Committee for this consortium and the University of Wisconsin-Stout plans to host its next meeting. In addition, two staff members of the RTC have served on the National VEWAA Certification Committee and have been active in developing job analysis materials and competency priorities for vocational evaluators.

The RTC has also conducted a cooperative training program on Vocational Evaluation with the Region I RCEP staff. The objective of this joint program was the training of selected trainers in Region I who will later use RTC training material in conducting similar workshops. Results of this effort were felt to be excellent and further cooperative training programs with the Region I RCEP are anticipated.

The RTC cosponsored, in cooperation with the Region V Center for Continuing Education; Minnesota Association of Rehabilitation Facilities; Minnesota Division of Vocational Rehabilitation; Minnesota Rehabilitation Association; and the Minnesota Rehabilitation Counselor Association a Futuring Conference to identify and prioritize the long-term issues facing rehabilitation in Region V. Approximately 100 recognized leaders on the national, regional and state level were invited to participate in this symposium.

RTC staff also cooperated with RT-21 in offering a workshop in Lubbock, Texas on Personnel, Social and Vocational Programming for the Mentally Retarded. The training presented in this workshop was based upon a behavior observation technique developed through research at the Stout R&T Center and described in the publication "A Quantative Approach to Observation in Rehabilitation Facilities."

A meeting was held at Stout R&T Center with the Research Directors from the three Vocational R&T Centers (Arkansas, West Virginia, Stout) to discuss the mission of each RTC to more fully understand each other's research efforts. The main purpose was to share research goals and projects, to avoid duplication and explore cooperative research projects; to discuss research reporting procedures; to discuss a research information sharing system; and to initiate a vehicle for continued dialogue among the Centers. Work was also initiated at this meeting on an input paper by the Vocational Center for the NIHR National Research Plan.

Stout R&T Center also hosted a meeting in Madison between our own Research staff; Research staff from RT-20 and RT-2; staff from the Rehabilitation Indicators project; and representatives from the Regional Office to discuss progress of the various Centers in research dealing with measurement of functional limitations in medical settings, vocational rehabilitation facilities, and State Vocational Rehabilitation agencies.

This meeting was followed-up a short time later by a visit to the Stout R&T Center by the Project Coordinator and research consultant of the Rehabilitation Indicators project for the purpose of reviewing common research efforts in the area of measurement. The meeting resulted in a sharing of research activities and a decision to review common research activities for the purpose of initiating joint research in the area of measurement of functional limitations of disabled persons (the specific RT-22 project which applies is "Client Referral Inventory" R-39).

The RT-22 Director of Research also attended a meeting in Denver in which eight R&T Centers (Medical-Vocational-Mental Retardation) met to plan for input into the NIHR research plan. As a result of that meeting, the three vocational centers have drafted a research planning paper which is currently being circulated for review and will be ultimately submitted to NIHR as input to their planning activities.

Similar sharing of research efforts has also occurred with Oregon's R&T Center. Informational packets on Stout's Point Sampling Observation System and Oregon's Social-Prevocational Inventory Battery were exchanged and informal discussion ensued. Both of these efforts enhanced and advanced the Center's research staff understanding of problems and resources in assessing the vocational potential of handicapped individuals which aided the Center's programmatic line of research in Vocational Evaluation.

In addition, based on our research experiences, the R&T Center is in the process of establishing "Research Affiliate Centers." Significant progress has been made in this area with rehabilitation facilities, State agencies and other universities. Currently, three facilities are participating as formal affiliates (see R-41 for details); the State of Wisconsin DVR is participating extensively with the Center (see R-40 as an example); and several research projects have been undertaken at Michigan State University as a result of our formal contract with that university.

In cooperation with, and at the request of, the Arizona Department of Vocational Rehabilitation and the University of Arizona, a two week workshop on Vocational Evaluation was conducted by the RTC in Phoenix, Arizona. A similar training program was conducted in Washington, D.C. in cooperation with and at the request of the Bureau of Vocational Rehabilitation Services, District of Columbia.

A team teaching effort has also occurred in cooperation with staff from Southern Illinois University. The program was for the Illinois Vocational Evaluation and Work Adjustment Association and was on the topics of work sample development and report writing. Also, two different training sessions of two days each were co-sponsored in Indiana with the Indiana Association of Rehabilitation Facilities. The first session was on Introduction to Vocational Evaluation and the second on Introduction to Work Adjustment.

A Regional Continuing Education staff person from Region VII attended a RT-22 two week training session on Vocational Evaluation. Plans are for this person to then teach, promote and coordinate the teaching of Vocational Evaluation in that region. In addition, training staff from Auburn University have already been used in RT-22 training sessions and plans are for two-way trade offs of RT-22 training staff functioning in their training sessions.

A joint training session for the California Association of Rehabilitation Facilities (CARF) was sponsored by CARF and the Regional Continuing Education Program of Region IX. Training was on Work Adjustment and was presented in team with staff from RT-22, University of Arizona and the University of San Francisco. Another two day workshop on "Vocational Evaluation of Deaf-Blind Clients" was cosponsored with the Uiversity of Texas at Dallas (Callier Center for Communication Disorders).

RTC staff conducted concurrent sessions at a training conference jointly sponsored by Mankato State University and the Minnesota Rehabilitation Association and a joint training and consulting session was held for one day with Milwaukee Goodwill Industries. Training structures and methods were discussed as well as ideas for media development within the facility.

RT-22 Training Specialists also taught as consultants or teams with other program staff as follows:

- New Jersey DVR, Dept. of Labor and Industry. "New Jersey Facilities - Perspective for the Eighties: A Leadership Role" Toms River, NJ, Sept. 24 & 25, 1980. Approximately 70 state leaders were in attendance (Facility, DNR, and Dept. of Labor and Industry people).
- Wisconsin DVR on the topic "Rehabilitation of the Industrially Injured." Fon du Lac, WI, Dec. 2 & 3, 1980. Approximately 100 people were in attendance (DVR, Insurance, Laws, Industry, and Education).
- Vocational Evaluation and Adjustment Services Program. Rehabilitation Education, Syracuse University, Syracuse, NY., "Vocational Evaluation: An Overview for Human Services Professionals", Dec. 11 & 12, 1980. Approximately 120 people were in attendance (DVR, Facilities and Education).

In cooperation with the Vocational Rehabilitation Institute, a one-half day training session on new RTC research findings was presented to SVRI graduates at the Annual Homecoming Conference, attended by almost two hundred Vocational Evaluation-Work Adjustment professionals. The RTC also cosponsored, with the University of Wisconsin-Stout, Office of Services for Handicapped Students, an Attendant Care Seminar for Dunn

County residents and university students. Instruction for the seminar was provided by staff from the Sister Kenney Rehabilitation Institute. The RTC also cosponsored with the same office a one day seminar on Rehabilitation Engineering attended by Industrial Technology, Special Education, Manufactoring, Home Economics, and Rehabilitation students and staff.

The following are further examples of joint planning sessions the RTC staff have participated in:

a) A two day training needs assessment planning session with staff from the Region V Rehabilitation Continuing Education Program.

b) A two day national planning session with the Association of Educators of Rehabilitation Facility Personnel.

c) Joint planning sessions were held with Sister Kenney Rehabilitation Institute to plan joint training, research and materials development.

d) Research and training staff from the RTC have met with staff from RT-11 to plan joint research and training activities in Point Sampling (R-41).

e) Joint planning sessions were held with Wisconsin DVR training staff, Wisconsin Rehabilitation Facilities Association staff, and personnel from the Region V Rehabilitation Continuing Education Program.

f) Joint research and training planning meetings were held with personnel from the State of Michigan DVR, the Michigan Association of Rehabilitation Facilities, and Michigan State University.

g) A number of joint research and training sessions have been held with Mankato State University and St. Cloud University in Minnesota.

h) A joint planning session was held with staff from the U.S. Depart- of Labor, Occupational Analysis Field Center (OAFC) concerning cooperative development of training materials involving the OAFC, the Stout Materials Development Center, and the RTC.

Further examples of cooperative endeavors include a National Work Adjustment Curriculum Development Workshop sponsored by the RTC in consortium with the Stout Materials Development Center, the Vocational Evaluation and Work Adjustment Association, Auburn University, Cornell University, University of Georgia and the RSA training section. The RTC staff also participated in a Regional Office meeting of state facility specialists which evolved into the development of a proposal by the RTC for a National Training Conference for facility specialists. Staff of the RTC also participate on the Advisory Committee of RSA RT-22 (University of Minnesota) and RT-20 (Rehabilitation Institute of Chicago), the Region V Regional Rehabilitation Continuing Education Center, and the Regional Rehabilitation Research Institute on Program Evaluation. Advisory Committee meetings of the Stout RTC have been hosted in the facilities of the Region V Rehabilitation Continuing Education Program, RT-20, Sister Kenney Rehabilitation Institute; Goodwill Industries of Cincinnati, Ohio; the Peckham Rehabilitation Center in Michigan; Sioux Falls Rehabilitation Center in South Dakota; Progress Industries in Minnesota; and the Ray Graham Rehabilitation Center in Illinois.

In Addition, RT-22 staff developed a grant involving the utilization of the University of Wisconsin-Stout Industrial Technology staff in Wisconsin Rehabilitation facilities. Industrial technology experts to be involved were from the field of product development, production management, and merchandising. Involvement included the Wisconsin Division of Vocational Rehabilitation, rehabilitation facilities of Wisconsin, the University of Wisconsin-Stout Industrial Technology Department, RTC staff, and other staff from the Stout Vocational Rehabilitation Institute.

A relationship has been developed with the Dunn County Adult Activity Center. Within the terms of this agreement, the RTC is able to carry out a significant portion of its research in the area of behavior observation and behavior norm development.

The RTC is also in the process of working out the details of a cooperative project to both develop and field test a new training program for rehabilitation counselors on the utilization of rehabilitation facilities. The agreement will be with Mankato State University and will use their facility and students as both the trainees and co-developers.

In addition, preliminary expressions of interest have been received from both Michigan and Ohio VR for the development of a resource manual to be used by counselors to assist them in making effective use of rehabilitation facilities. In discussing this project with other parties who might have similar interest, it has been determined that Iowa VR, Region I Regional Office, and Region I Continuing Education desire to participate in the development of these materials. It is expected that a training program will be developed around the manual which is being developed.

A further cooperative relationship exists with the State of Wisconsin Division of Vocational Rehabilitation in that a RT-22 staff person is a member of the DVR Steering Committee on Rehabilitation Engineering issues for 11 counselors employed by the State DVR Agency. The R&T Center is currently assisting the State Agency by providing expertise in the development of instructional programs for state agency use with counselors.

The research staff of the RTC entered into an agreement with the Vocational Development Center in which the RTC staff assisted in the development and implementation of a program evaluation strategy for that center. In exchange, the research staff have access to the data which is generated and will be able to assess the functioning of the strategy.

Cooperative relationships have also been established with the Region IV Regional Rehabilitation Continuing Education Center, Southern Illinois University and the Region VIII Rehabilitation Continuing Education Center. The objectives of the RTC in these contacts are to:

1 Conduct joint training where practicable
2. Conduct joint research projects where practicable
3. Validate training materials
4 Cooperate in training needs assessment
5. Share training facilities and equipment
6. Telecommunication-cooperation
7 Serve as a research internship site for doctural candidates.

Another Kind of "cooperative relationship" is the consultation provided by training staff to practitioners in the field. Hundreds of people, letters and telephone calls come into the Center and are handled by training staff as consultants. Direct consultation also occurs at training and professional meetings where practitioners on an individual basis regularly present to trainers program related problems. These problems or situations are usually worked through on the spot or handled later by telephone or return mail. An estimate of these special consultations by training staff is provided below.

Consultation Topics	Est. # of Contacts	Some Relevant Outcomes	Total Time Est. for Contacts
Certification by Practitioners	16	Improved techniques by certifying and better understanding of the rationale and process	80 Hours
Selecting Appropriate Work Sample System(s)	15	Clearer understanding of process for selecting systems	15 Hours
Developing Legislation for Certification and Licensing	2	Helped advance process	32 Hours
Developing Programs for Aged, Homebound, Handicapped People	6	Helped capture new funding services from commission for aging and local bank	9 Hours
Planning Manpower Study	4	Helped develop manpower study	30 Hours
Planning Professional Meetings	12	Helped develop goals, objectives and training activities	60 Hours
Planning Training for Facility Specialists	3	Project developed (Not funded yet)	60 Hours
Planning Training for Rehabilitation Inter-Professional Workers	2	Project developed (Not funded yet)	20 Hours
Planning Conference Program for Counselor	2	Conference occured	2 Hours

Consultation Topics	Est. # of Contacts	Some Relevant Outcomes	Total Time Est. for Contacts
Explaining Coop. with Other Training Agencies	6	Improved understanding	50 Hours
Conferring Regarding Adjunct Faculty	25	More people available as adjunct faculty	1 Hour
Hiring of Training Staff	1	Information given	20 Hours
Studying Training Needs in Facilities	2	Changes in and support for training marketing	30 Hours
Training CETA Professional Staff	2	No changes - Long-term plans made	16 Hours
Developing Vocational Evaluation Internationally	4	Information given	8 Hours
Developing Intern Training Plan	3	Schedules, goals and objectives set	12 Hours
Planning Collaboration with Wis. DVR	4	Plans	8 Hours
Planning Graduate Curriculum With Out-of-State University	4	Curriculum developed	30 Hours
Planning Training Consortium With Out-of-State College	4	Plans developed	15 Hours
Evaluating Facility Programming	2	Information given	2 Hours
Explained Relation of Workmen's Comp. to Voc. Eval.	2	Information given	8 Hours
Conferring Regarding Selection of Training Materials for Rehab. Facilities	60	Resources identified and either referred to or sent	80 Hours

Consultation Topics	Est. # of Contacts	Some Relevant Outcomes	Total Time Est. for Contacts
Assisting Rehab. Programs in Identifying Available Training Programs	12	Referral made	8 Hours
Replying to Requests Re: RTC#22 Training Offerings Information	200	Information given	125 Hours
Training Needs Assessments with Facilities and Agencies	36	Needs assessment procedure outlines, conducted and agenda constructed	70 Hours
Assistance to Facilities and Agencies in Recruiting Professional Rehabilitation Personnel	8	Information given	4 Hours
Assisting in Seeking Funding for Participation in Professional Rehab. Training	30	Referrals made	18 Hours
Consultation with Preservice Training Institutions Re: Curriculum Development in Rehab. Services	11	Information given	45 Hours
Assistance in Grant Development Regarding Institution of Rehab. Services Programs	6	Information given	18 Hours
CARF Surveys	5	Program improvement and certification	80 Hours
Vocational Rehabilitation with Am. Indians	1	Program improvement	4 Hours
Presenting Training and Education Resources	20	In-service training and self-development	20 Hours

Consultation Topics	Est. # of Contacts	Some Relevant Outcomes	Total Time Est. for Contacts
Post-CARF Survey Assistance to Facilities	5	Program Improvement	20 Hours
Assisting Individual Students From Voc. Rehab. Undergrad/Grad. Programs	30	Professional growth and development	50 Hours
Audiovisual Methods	4	Helped advance the use of media type programs in facilities	2 Hours
Rehabilitation Engineering Resources	6	Assisted facility personnel in obtaining answers to specific problems dealing with job adaptations	4 Hours
Rehabilitation Engineering Resources for State Counselors	10	Project developed by state agency to train counselors in the field	8 Hours

f. Relationships with Consumer Groups

The primary mechanism for monitoring and input to the RTC from disabled consumers is through the Advisory Council. The Advisory Council has been recently reorganized to include a representative of the National Congress of Organizations of the Physically Handicapped and a member who serves as a state level advocate for the developmentally disabled. In addition, the Advisory Council includes an orthopedically disabled member who is a provider as well as a member of a large national organization for the disabled. It is the role of the Advisory Council to assure that the research and training activities of the Center are relevant, appropriate, and applicable to the disabled population served by vocational rehabilitation agencies and facilities.

The Research and Training Center also cosponsored a two day conference for disabled consummers on the topic: "Law and the Handicapped."

In cooperation with Dr. Jack Genskow, Coordinator, from Sangamon State University. The conference was held on October 24-25, 1980 at the Public Affairs Center of Sangamon State University. The conference included funding from three sources and a planning committee representing twelve state and private agencies and consumer groups.

Over one hundred persons attended the conference which stressed up-to-date information on legal rights and how a disabled person can access these rights.

4

REGIONAL ADVISORY COUNCIL

REGIONAL ADVISORY COUNCIL

a. Origin and Current Status

The Advisory Council was established in 1973 and was recently reorganized in order to assure that it will play a significant role in the development of programs and priorities for the Center. In addition to State VR agency representation, individuals representing education, consumer groups, national organizations, vocational facilities, and research programs are included:

A major focus of the reorganization was to eliminate individuals who had not been active participants and to strenghten the representation of consumers and persons with strong research and training competencies. The Council now meets three times a year, has a sub-committee on Research, Training, and Administration, routinely reviews all research projects while in the conceptualization stage as well as in the rough draft stage, and participates actively in administrative and program decision-making. The Advisory Council has evolved into a unified and functional body which provides significant impact to the operations of the Center.

b. Advisory Council Members

Joseph Fenton, Ed.D., Chief (ex officio)
Special Assistant to the Director
National Institute for Handicapped Research

Ralph Church
RSA Director
Regional Office of Rehabilitation Services

Alfred Slicer
1404 N. Lathrop Avenue
River Forest, Illinois

Richard P. Oestreich (Chairman)
Rehabilitation Director
Vision Center

Altamont Dickerson, Jr.
Commissioner
Virginia Department of Rehabilitation Services

Pete Griswold
Director
Bureau of Rehabilitation

Kenneth T. McClarnon
Deputy Administrator
Wisconsin Division of Vocational Rehabilitation

Carl Bryngelson
Facilities Specialist
Division of Vocational Rehabilitation

Jerry Starkweather
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c. Purpose of Meetings

The major objectives of the Advisory Council meetings include:

1. recommendations for research and training projects to be developed for new funding cycles,
2. review and recommendations for refinement of working drafts for those projects eminating from #1 above,
3. review and recommendations for refinement of core area and programmatic lines of research and training,
4. recommendations and planning for RTC articulations with related regional programs and centers,
5. evaluation and refinement of the goals, objectives, and specific research, training, and administrative activities of the Center with recommendations for program improvement,
6. recommendations and planning for expansion of program activities.

In order to achieve the above objectives, the Advisory Council meets three times each year. For each meeting, the Advisory Council is hosted by a different state in the Region with a related RSA program providing the meeting facilities and serving as host. It is hoped that this procedure will expose the Advisory Committee to the wide range of problems, resources, and concerns within Region V and allow them to more meaningfully provide guidance to the RTC activities. The following list of Advisory Council meetings illustrates this procedure.

1. May, 1977. Host State - Illinois. Host Program - Sears & Roebuck National Personnel Offices (Sears has extensive evaluation and positive action programs for the disabled). Host Site - Sears Towers, Board Room; Chicago, Illinois.
2. July, 1977. Host State - Wisconsin. Host Program - Stout Vocational Rehabilitation Institute (Vocational Development Center, Materials Development Center, the Department of Vocational Rehabilitation Education, and the RTC). Host Site - University of Wisconsin - Stout, Menomonie, Wisconsin.
3. October, 1977. Host State - Minnesota. Host Program - Minnesota Rehabilitation Center and Regional Rehabilitation Continuing Education Program. Host Site - Conference Room at Regional Rehabilitation Continuing Education Center, Minneapolis, Minnesota.

4. ebruary, 1978. Host State - Illinois. Host Program - Rehabilitation Institute of Chicago (Affiliated with Northwestern University Medical Complex). Host Site - Conference Room of RSA RT-20, Rehabilitation Institute of Chicago.
5. April, 1978. Host State - Michigan. Host Program - Peckham Rehabilitation Center. Host Site - Conference Room, Peckham Rehabilitation Center, East Lansing, Michigan.
6. ly, 1978. Host State - Wisconsin. Host Program - Stout Vocational Rehabilitation Institute (Vocational Development Center, Materials Development Center, the Department of Vocational Rehabilitation Education, and the RTC). Host Site - University of Wisconsin - Stout, Menomonie, Wisconsin.
7. November, 1978. Host State - South Dakota. Host Program - Sioux Vocational School for the Handicapped. Host Site - Sioux Vocational School, Sioux Falls, South Dakota.
8. February, 1979. Host State - Minnesota. Host Program - Sister Kenney Institute. Host Site - Conference Room of the Registry Hotel, Minneapolis, Minnesota.
9. March, 1979. Host State - Ohio. Host Program - Goodwill Industry. Host Site - Conference Room at the Howard Johnson Hotel, Cincinnati, Ohio.
10. August, 1979. Host State - Wisconsin. Host Program - Stout Vocational Rehabilitation Institute (Vocational Development Center, Materials Development Center, the Department of Vocational Rehabilitation Education, and the RTC). Host Site - University of Wisconsin - Stout, Menomonie, Wisconsin.
11. November, 1979. Host State - Illinois. Host Program - Ray Graham Association for the Handicapped. Host Site - Ray Graham Assoication for the Handicapped, Chicago, Illinois.
12. January, 1980. Host State - Minnesota. Host Program - Opportunity Workshop. Host Site - Conference Room at the Registry Hotel, Minneapolis, Minnesota.
13. July, 1980. Host State - Wisconsin. Host Program - Stout Vocational Rehabilitation Institute (Vocational Development Center, Materials Development Center, the Department of Vocational Rehabilitation Education, and the RTC). Host Site - University of Wisconsin - Stout, Menomonie, Wisconsin.

4. October, 1980. Host State - Illinois. Host Site - Holiday Inn-Lakeshore Conference Room, Chicago, Illinois.

15. January, 1981. Host State - Minnesota. Host Site - Bloomington Marriott Hotel Conference Room, Bloomington, Minnesota.

Future host programs include RT-11, University of Wisconsin-Madison; RT-2, University of Minnesota, Minneapolis; Michigan State University, East Lansing, Michigan; and Vocational Evaluation and Work Adjustment facilities in Ohio, Indiana, and Illinois.

In order to achieve maximum efficiency and effectiveness, the Advisory Council usually meets for two days each, three times a year. In addition, the Advisory Council has formed three sub-committees to assure significant in-depth involvement with the various aspects of the RTC (i.e., Research Committee, Training Committee, and a Committee on Administration of the Center). Further, in order to strengthen the representative role of the Council, two consumer advocates and two research specialists were added to the Council. These individuals replaced four persons whose previous participation and involvement with the Council was quite limited.

The Mission Statement of the Center, lines of programmatic research, and specific research proposals contained in the Progress Report represent Advisory Council recommendations and were the subject of in-depth review with detailed recommendations and comments provided in reference to each specific project by the Council prior to final approval for inclusion in the Progress Report.

SPECIAL PROJECTS

Title: Training for Utilization of Similar Benefits by selected counselors and administrators in the six state DHEW, Region V. Supported by RSA Grant #45-P-25792/5-01.

Purpose: Although similar benefits have for many years been part of vocational rehabilitation planning, they have not been consistently used by different agencies and counselors. Now, as funding becomes more restricted and as additional more costly services are required for the severely handicapped, it is more important than ever for counselors to be able to overcome the barriers which exist for the effective utilization of similar benefits in the vocational rehabilitation process.

During the past year, the Research and Training Center undertook a grant project budgeted at $33,480 by the Rehabilitation Services Administration to develop a training program to assist vocational rehabilitation personnel to overcome barriers to effective and efficient utilization of similar benefits. A preliminary planning meeting took place with RSA Region V and RTC staff in Chicago on October 23, 1979. At that meeting, general guidelines for the training program's content and format were developed, as well as procedures for the selection of a Steering Committee.

The Steering Committee was comprised of representatives from five of the Region's vocational rehabilitation agencies, two RSA, and three RTC staff personnel. The first meeting of this Steering Committee was held in Chicago on February 27-28, 1980. At this meeting, a detailed design of the training program was developed.

Preworkshop activities by RTC staff included: identification of participants; development and distribution of a participant questionnaire; analysis of questionnarie data; identification of workshop presenters; identification and collection of similar benefits resource materials; and workshop site arrangements.

The training workshop for Similar Benefits was held August 4-6, 1980 at the McCormick Inn in Chicago, Illinois. Participants included five to six representatives from each of the Region V Vocational Rehabilitation Agencies, as well as a staff person from the Region V Continuing Education Center.

The agenda as developed by the Steering Committee was as follows:

Day One, A.M.: Presentations - "Issues of Similar Benefits Utilization From Four Perspectives"

Presenters:

Federal Perspective - Terry Conour
Regional Office for RSA
Chicago, Illinois

State Perspective - Pete Griswold, Director
Vocational Rehabilitation Services
Lansing, Michigan

Counselor Perspective - Pat Berry
Federation for Community Planning
Cleveland, Ohio

Consumer Perspective - Carolyn Emerson, Director
Vocational Rehabilitation Ombudsmen Program
St. Paul, Minnesota

Day One, P.M.: Similar Benefits Issue Identification/Prioritizations, Five Small Group Sessions:

Group I - Planners/Evaluators

Group II - Administrators

Group III - Mid-Level Management

Group IV - Supervisors

Group V - Counselors

Day Two, A.M.: Presentation: "Model Program - Monitoring/Evaluation of Similar Benefits Utilization"

Presenter: John Wade, Assistant Commissioner
Department of Rehabilitative Services
Richmond, Virginia

Day Two, A.M.: Issue Resolution - Functional Small Groups (continued)

Day Two, P.M.: Issue Discussion by State Agencies, Eight Small Group Sessions. Small Groups (State Agency) - Issue Discussion

Minnesota (General)

Indiana

Wisconsin

Michigan (Blind)

Minnesota (Blind)

Illinois

Michigan (General)

Ohio

Day Three, A.M.: State Agency Group Reconvene, Finalization of State Plan, Reports to Large Group from State Agency Groups and Summarization/Closure.

The following personnel were involved in the planning, coordinating, and conducting this workshop.

Research and Training Center Staff

Darrell Coffey
Colleen Esser
Dan McAlees
Lana Berge

Steering Committee

Basil Antenucci
George Covington
Terry Etling
Chris Ottmar
Bill Sather

RSA Staff

Miriam Walker
Terry Conour
George McCrowey
Dale Romesburg
Dennis Bega
Cynthia Brewer
Don Morrow
Beverlee Stafford

Title: National Rehabilitation Facility Personnel Needs Study

Purpose: In late 1980, the Center was asked by the RSA Training Division to provide information on the "needs for rehabilitation personnel in rehabilitation facilities." Neither current nor projected estimates were available. As such data is important for both the RSA's planning of training allocations to short-term and long-term programs and the Center's long-range planning of training programs, a national survey of approved rehabilitation facilities was initiated under the Center's Rehabilitation Resource Development and Management research line.

The 2516 facilities approved for delivery of evaluation, adjustment and placement services to clients of the states' vocational rehabilitation program were initially surveyed in December, 1980. After a 26% return, these facilities which had not responded were again surveyed in mid-January, 1981. At this writing, an additional 15% have been received.

Respondents to the questionnaire were asked to provide data on both their personnel needs and the general nature of their facility. Present and projected estimates of needed personnel were solicited for rehabilitation personnel who would be engaged rehabilitation counselors, administration, supervisors, vocational/work evaluators, vocational/work adjustment, work activities, production, vocational job skills development, Independent Living and Placement. Present full time equivalents estimates for next year and estimates for two five year intervals were sought. The results of this survey will be shared with the RSA, following analysis, and made available to the field in July through a center research and training report.

Title: Institute on Rehabilitation Issues

Purpose: Included in the budget of the Research and Training Center is the sum of $30,000 to enable the Center to sponsor a prime study group in the continuing annual cycle of the Institute on Rehabilitation Issues. The institute is a mutual endeavor of state VR agencies, the Research and Training Centers, the Council of State Administrators, and the Rehabilitation Services Administration. The Institute gathers, on an annual basis, practitioners, educators, and rehabilitation agency personnel to study issues identified by practitioners as significant in current rehabilitation practices. The prime study group, as the product of their studies, develops documents for field dissemination specifying programmatic and contextual approaches responsive to the needs and problems within the issue.

The Research and Training Center - Stout, in conjunction with the other two vocationally oriented Research and Training Centers, sponsors and coordinates the activities of the prime study groups. The IRI project of the Research and Training Center - Stout for 1979-80 was entitled "Interpreter Services for the Deaf Clients" and described the selection and use of interpreter services by general caseload rehabilitation counselors, junior college and university counselors, etc.